

Wai'ānapanapa State Park



DRAFT MASTER PLAN



Prepared for:
State of Hawaii
Department of Land and
Natural Resources

Prepared by:
Wilson Okamoto Corporation



OCTOBER 2004

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1. INTRODUCTION

1.1 Purpose of the Master Plan

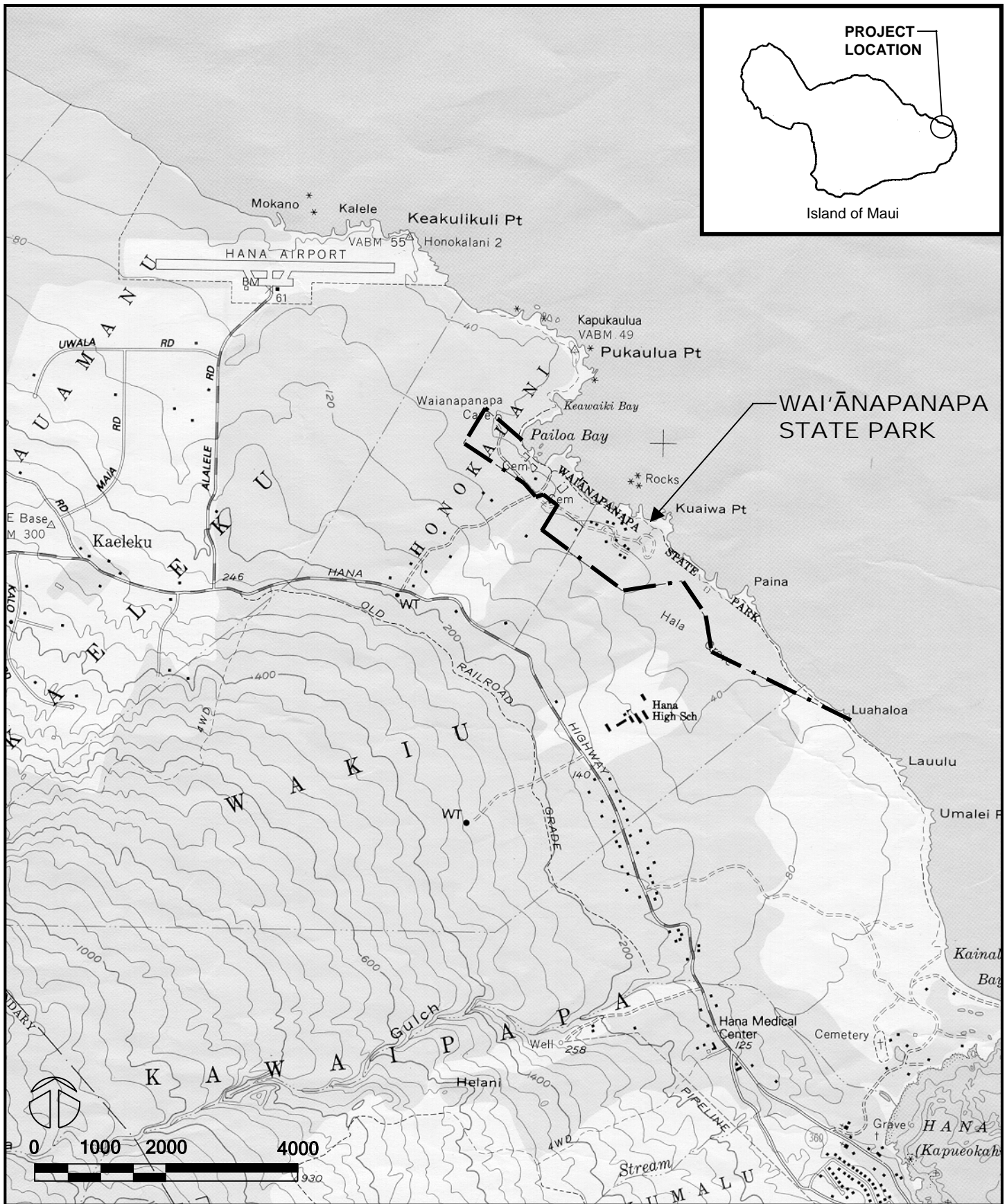
The purpose of this plan is to provide a guide for the management, enhancement and development of Wai‘ānapanapa State Park for a twenty-year planning period extending from 2005 to 2025. Although Wai‘ānapanapa State Park was established more than 30 years ago in 1968, a comprehensive master plan has never been completed for the park. Key components of the park’s facilities and infrastructure are nearing the end of their expected life and a comprehensive master plan is desired before funds are invested for facility reconstruction or replacement. This Master Plan addresses issues relating to preservation and management of natural, cultural and scenic resources, public use and recreational activities, park facilities and infrastructure, and improvements required to comply with Department of Health, Building Code, and Americans with Disabilities Act requirements.

1.2 Park History

The value of establishing a park in the Wai‘ānapanapa area was recognized in at least two potential park planning studies in the 1960’s; Mauka and Makai prepared by the National Park Service in 1962 and Hawaii’s Shoreline prepared by the Department of Planning and Economic Development in 1965. Wai‘ānapanapa State Park was established in 1968 when the State of Hawai‘i acquired parcel 1-3-5:09 from Hāna Ranch through condemnation. Proceeding in 1978, 105.3 acres were set aside to the Division of State Parks under Executive Order No. 2900 (E.O.) for Wai‘ānapanapa State Park and in 1993, 5.0 acres were added under E.O. 3579, for a total of 110.3 acres. The park apparently was named after Wai‘ānapanapa cave, one of the park’s natural attractions (see Section 4.2.2 for the legend of Wai‘ānapanapa). According to the Draft Wai‘ānapanapa State Park Conceptual Plan (DLNR, 1974) after the park was established, visitation was light but in 1972-1973, the use of the park doubled as tourism rapidly expanded in the Hāna area. During its early years, recreational use was heavily oriented towards overnight use, which included tent camping and use of the cabins that were constructed in the early 1970’s. Since then, use of Wai‘ānapanapa State Park has gradually shifted towards day-users, who are primarily visitors traveling along the Hāna Highway.

1.3 Park Location and Surrounding Uses

Wai‘ānapanapa State Park is located in the Hāna district of the island of Maui approximately one-mile southeast of Hāna airport (see Figure 1). The approximately



Wai'anapanapa State Park Master Plan

Figure No.

Location Map

1



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110-acre park spans across the ahupua'as of Honokalani, Wākiu, and Kawaipapa and is comprised of tax map keys (2) 1-3-05: 9, 11 and (2) 1-3-06:9. Access to the park is provided by Honokalani Road off the Hāna Highway.

The Hāna region is characterized by large expanses of natural forests and agricultural lands with scattered rural residential lots. With the exception of a few residences located along the northern border of the park and along the park's access road, lands immediately adjacent to the park are undeveloped. Major facilities located in the vicinity of the park include Hāna airport to the north, a County refuse site about ½-mile to the south, and Hāna High and Elementary School ¼-mile to the west. Hāna town is about one-mile south of the park. A number of attractions and uses that are outside of the park's boundary are accessible via the park. These attractions/uses include Wai'ānapanapa cave, the coastal trail, and three private cemeteries located within the park.

2. REGULATORY CONSIDERATIONS

State statutes and administrative rules pertaining to State parks provide the “ground rules” for the Master Plan. Chapter 184 of the Hawai‘i Revised Statutes sets forth the role of the Department of Land and Natural Resources for managing State Parks. Unlike county parks, which primarily serve an active recreational function, State parks are intended to preserve areas of natural, aesthetic or historic value with opportunities for passive use. This master plan, therefore, promotes uses and policies that will protect the natural, aesthetic, and historic resources at the Wai‘ānapanapa State Park. The master plan also promotes uses consistent with the provisions of the underlying State land use district and County zoning.

2.1 Hawai‘i Revised Statutes

Chapter 184, Hawai‘i Revised Statutes (HRS), empowers the Department of Land and Natural Resources to designate state parks and manage the State park system. Section 184-6, HRS, specifies that the duty of the Department is to “preserve the parks and parkways in the state park system in their natural condition so far as may be consistent with their use and safety, and improve them in such a manner as to retain to a maximum extent their natural scenic, historic, and wildlife values for the use and enjoyment of the public.”

The emphasis on preservation of scenic, historic, and wildlife values provides the guiding theme for the master plan. Recommendations provided in the master plan are consistent with this theme.

2.2 Hawai‘i Administrative Rules

Chapter 146, Title 13, Hawai‘i Administrative Rules, Hawai‘i State Park System, provides the rules that implement the policies set forth in Chapter 184, HRS. The rules specify the permitted and prohibited uses within State parks, required permits for camping, lodging, group use, and special uses, and limitations on commercial and private operations.

2.3 State Land Use Districts

The State Land Use Law, Chapter 205, HRS, is intended to preserve, protect, and encourage the development of lands in the State for uses that are best suited to the public health and welfare of Hawai‘i’s people. All lands in the State are classified into one of four districts: Urban, Agricultural, Rural or Conservation. The majority of Wai‘ānapanapa State Park, approximately 95 acres, is in the Conservation district

and approximately 15-acres is in the Agricultural district. The purpose of the Conservation district is to protect and preserve areas that possess natural, historic, and scenic resources and also to provide park lands, and wilderness and beach reserves. The primary purpose of the Agricultural district is to reserve lands for agricultural pursuits, although the district also contains lands that are unsuitable for agriculture but have value as open space. The State Department of Land and Natural Resources regulates uses in the Conservation district while the County of Maui regulates uses within the Agricultural district.

2.4 Mission Statement and Goals for Wai‘ānapanapa State Park

Based on the provisions of section 184-6, HRS, and consistent with the park’s underlying land use district classification and zoning, the following mission statement was developed to establish a reference point for evaluating alternatives and formulating recommendations of the master plan:

Preserve Wai‘ānapanapa State Park in its natural condition while providing appropriate opportunities for public education and enjoyment that will have a minimal impact on the park’s natural, cultural, and scenic resources.

The emphasis on preservation and the association of public use and enjoyment with scenic, historic and wildlife values is the basis for defining the goals for Wai‘ānapanapa State Park.

Goal 1: Preservation

Wai‘ānapanapa State Park’s natural, cultural and recreational values include rare, unique or representative species and habitats, representative geological features, archaeological sites, cultural resources, scenic qualities and recreational opportunities. Examples of its important species and habitats include the intact native *hala* (*Pandanus tectorius* S. Parkinson ex Z) forest to the north of the park, which is also the habitat for the endangered Hawaiian hoary bat (*Lasirus cinereus semotus*). The park’s shoreline (coastal) geological features include sea caves, a blow hole and sea arches. An abundance of archaeological sites have been identified within the park. Native Hawaiian cultural values are associated with ancient and contemporary gravesites, and traditional fishing and gathering activities in the park. The park’s scenic qualities include spectacular coastal views. Recreational opportunities include sightseeing, picnicking, swimming, hiking, camping, and fishing. Based on these resources and values, the first goal for Wai‘ānapanapa State Park is:

Protect and preserve rare and representative species, habitats, geological features, archaeological sites, cultural resources and activities, scenic qualities and natural recreational opportunities within Wai‘ānapanapa State Park and adjacent State owned lands that may be included in the park in the future.

Goal 2: Public Use and Enjoyment

The relationship between the public’s use and enjoyment of Wai‘ānapanapa State Park and preservation of the park’s natural, cultural, and recreational values provides the context for the second park goal. The public’s use and enjoyment of the park can be achieved by providing managed access to resources, providing supporting facilities for park activities, and enhancing public enjoyment by promoting greater appreciation of the resources and their natural and cultural values. Providing access to these resources and accommodating their use, however, must be balanced with the goal of resource protection and preservation.

The goal of providing access and accommodating public use of the natural, cultural and recreational resources at Wai‘ānapanapa State Park reflects the demands and needs of park users. Existing park user demand at Wai‘ānapanapa State Park include activities such as sightseeing, picnicking, swimming, hiking, camping and fishing. Based on this user demand and, in consideration of the goal for preservation, the goal for public use may be stated as:

Provide access and facilities accommodating park users and activities consistent with the protection and preservation of rare and unique species and habitats, geological features, archaeological sites, cultural resources and activities, scenic qualities and natural recreational opportunities.

Goal 3: Public Understanding and Stewardship

The public’s enjoyment of Wai‘ānapanapa State Park’s resources and values can be enhanced through an understanding, awareness and appreciation of these resources and values. This understanding and appreciation can occur by providing access, sensory cues and signage. Interpretive and educational programs centered on the themes of geology, ecology, archaeology and culture can promote the goal of understanding, as well as the goal of preservation and stewardship. Hence, a goal to promote public education and stewardship of the park resources and values may be stated as:

Promote the understanding, appreciation, and enjoyment of the park's natural, cultural, scenic, and recreational resources and values as a means of encouraging a sense of stewardship for these resources by park visitors and users.

Goal 4: Revenue Generation

Financing of park improvements and operation and maintenance of park facilities will require a continuous commitment of funding. Due to the State's limited financial resources, appropriate user fees should be considered in order to offset costs. While fees are currently charged for use of the cabins and for camping permits, fees may also be considered for commercial vehicles, parking, and entry fees. Other potential sources of revenue, such as food concessions, may also be considered. The goal for revenue generation may be stated as follows:

Implement equitable user fees to assist in funding programs and to offset staffing, operation and maintenance costs.

3. EXISTING USES AND FACILITIES

3.1 Existing Uses

The location of primary uses and facilities at Waiʻānapanapa State Park is illustrated in Figure 2, Site Plan. As shown on the plan, most uses are located at the northern portion of the park. Primary day-uses include sightseeing, hiking, swimming (when waters are calm), and picnicking. The park is also a popular rest stop for travelers and tour buses traveling along the Hāna Highway. Cabin lodging and overnight camping is allowed on a permit basis. The following provides a brief description of these uses.

Sightseeing and Picnicking:

Sightseeing is the most popular activity for visitors to the park. Scenic coastal views can be enjoyed along the entire coastline of the park although the most popular area for sightseeing is near Paʻiloa Bay. Picnicking in a grassed area between the parking lot and campgrounds is also an activity associated with sightseeing.



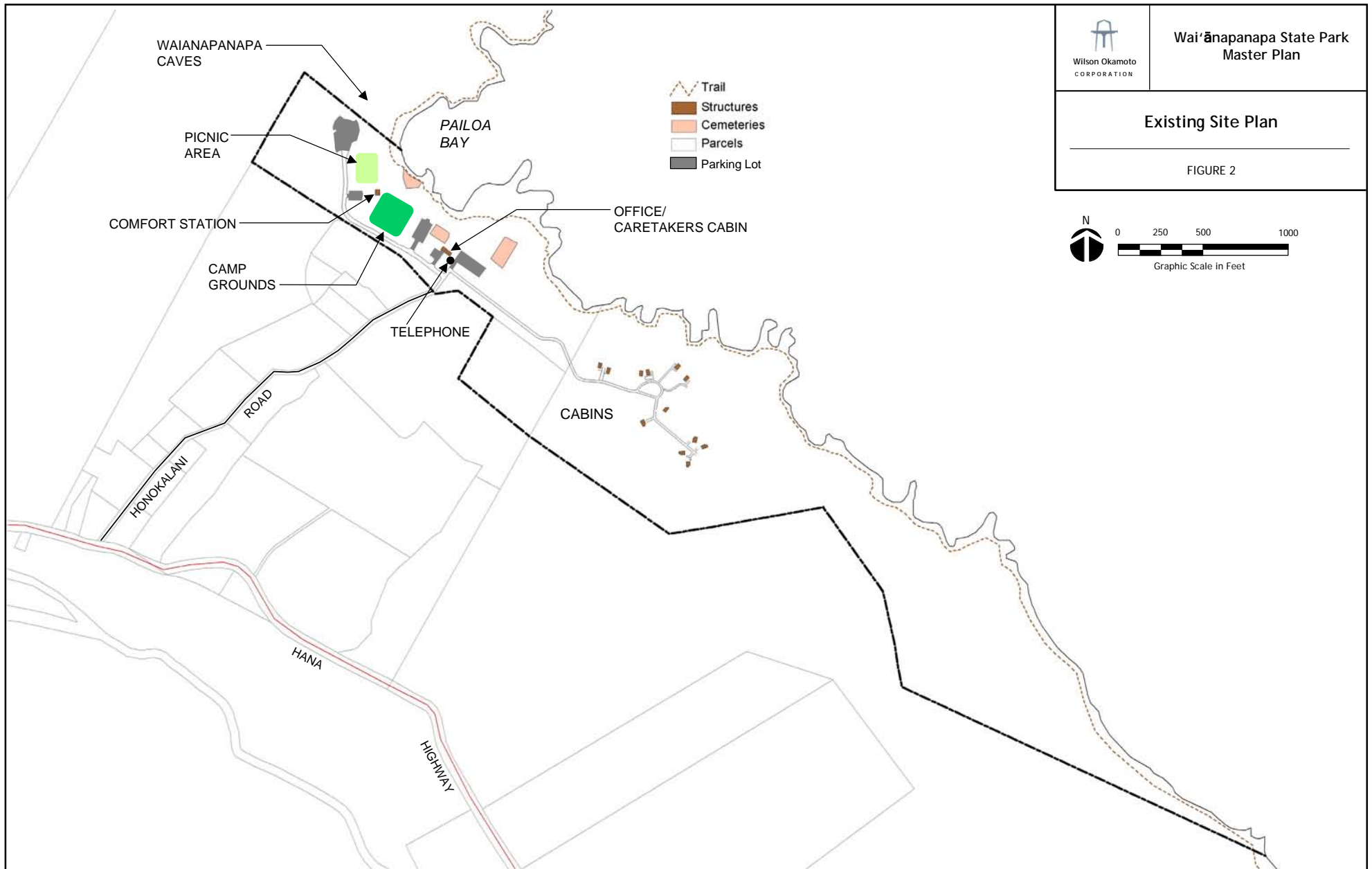
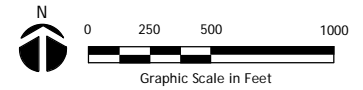
Typical coastal view.

Hiking: Hiking along a trail that extends along the park's coastline is a popular activity for visitors. Except for a portion of the trail near Paʻiloa Bay, the trail is unimproved.

Swimming and Sunbathing: The black sand beach in Paʻiloa Bay is one of the few accessible areas for swimming and sunbathing in the Hāna area. However, due to strong currents and rough ocean conditions swimming at the park is discouraged.

Existing Site Plan

FIGURE 2



Camping: Camping on a permit basis is allowed at an approximately one-acre campground. There are 6 unmarked camping sites and up to 10 campers may use each site.



Existing campgrounds.

Fishing: Shoreline fishing is pursued primarily by Hāna residents and Hawaiʻi residents visiting Hāna or camping at the park. The most popular fishing areas appear to be in the central and southern portion of the park, away from heavily used areas.



Typical Cabin.

Cultural Activities: In addition to fishing, ongoing cultural activities at the park include gathering marine resources such as *limu* (seaweed), crabs, and ‘*opihi* (a limpet). Plants that are gathered at the park include *kukui* (*Aleurites moluccana*, L.), *niu* (coconut, *cocos nucifera* L.), ‘*ulu* (Breadfruit, *Artocarpus altilis*), *wauke* (*Broussonctia papyri fera*), *māmak* (*Piptuus albidus*), *noni* (*Morinda citrifolia*, L.), false *kamani* (*Terminalia catappa*, L), mango (*Mangifera indica*, L.), guava (*Psidium guajava*), ferns and *ti* (*Cordyline Fruticosa Terminalus*, L.)

3.2 Supporting Facilities

Water System: The County of Maui Department of Water Supply provides water service to Wai‘ānapanapa State Park. The County system consists of three deep wells, storage tanks in Hāmoa and Hāna, and a surface water source located on Wailua Stream. The surface water source on Wailua Stream, however, is presently not used. Water for Wai‘ānapanapa State Park is provided from a 0.5 million gallon (MG) concrete storage tank located at the 325-foot elevation. A 6-inch waterline conveys water from the 0.5 MG tank to a 4-inch pipe located in Honokalani Road. The park’s water meter is installed on the 4-inch pipe near the park’s entrance. At the entrance to the park, the 4-inch line splits into a 2.5-inch pipe to the north that provides service to the caretaker’s residence/office, and the comfort station. A 1.0-inch lateral provides water service to the caretaker’s residence/office while a 1.25-inch lateral provides service to the comfort station. A 3-inch line runs to the southeast for about 275-feet before transitioning to a 2-inch “drisco” line. The 2-inch line, which was installed about 5 years ago, provides water service to the cabins via one-inch laterals. There are no fire hydrants within the park, although the 4-inch pipeline in Honokalani Road may be capable of providing water flow to standpipes for fire protection. Figure 3 illustrates the existing water system.



Existing comfort station.

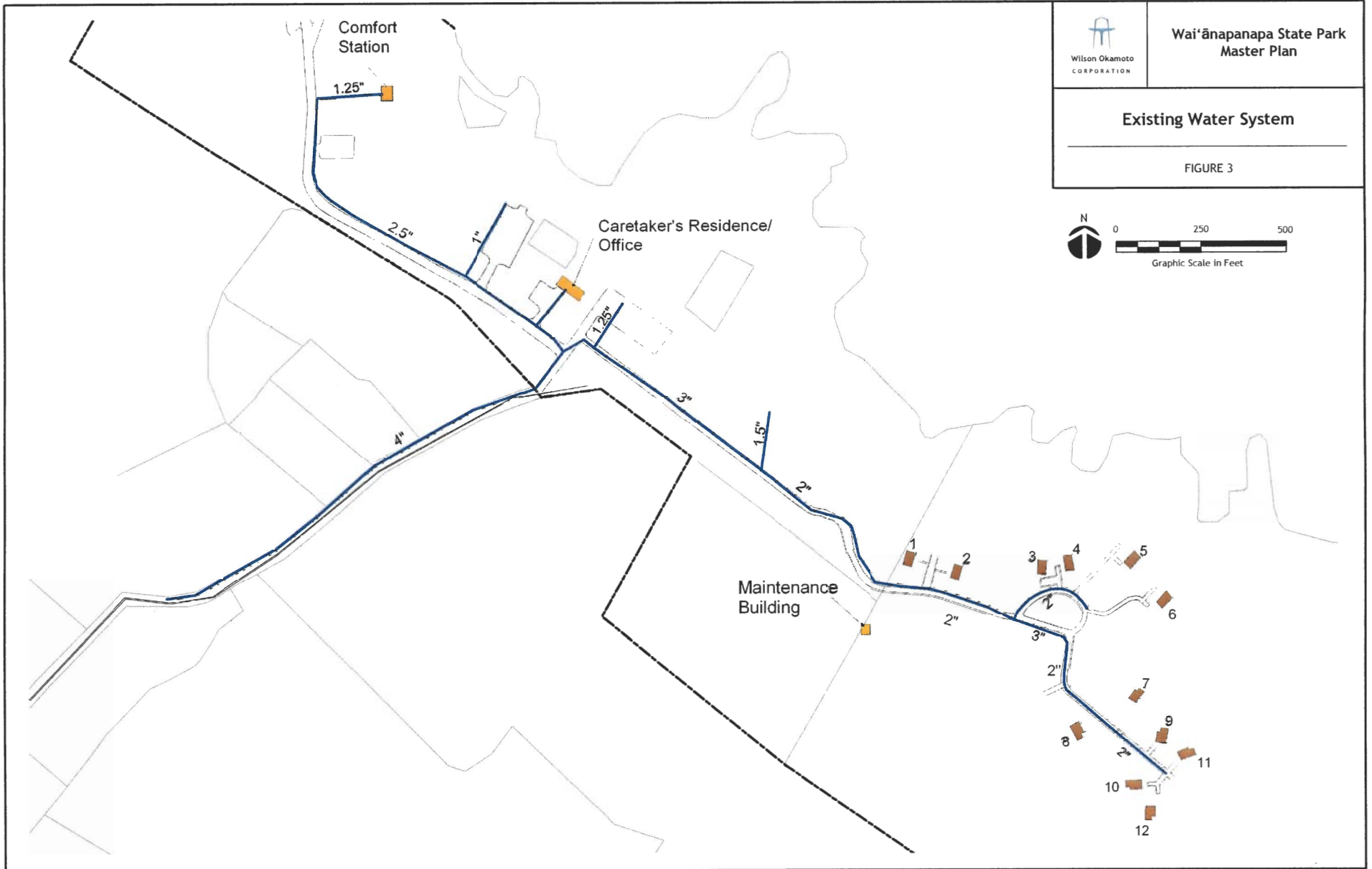
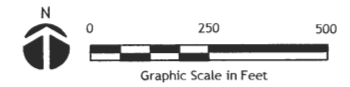
Comfort Station and Wastewater System: The park has one comfort station located in the vicinity of the campgrounds. The comfort station and caretaker’s residence each have one cesspool that are located immediately *makai* of the structures. The 12 cabins are grouped in pairs with each pair of cabins sharing a cesspool.



Wai'anapanapa State Park
Master Plan

Existing Water System

FIGURE 3



Roadways: Access to Wai‘ānapanapa State Park is provided off of Hāna Highway via Honokalani Road. Honokalani Road is a privately owned roadway maintained by the State. The State has an access easement that allows use of the road for entry into Wai‘ānapanapa State Park. A two-lane paved roadway provides circulation within the northern half of Wai‘ānapanapa State Park. There are no improved roadways in the southern half of the park.



Office / Caretaker's Residence.

Parking: The park has three paved and two unpaved parking lots. One of the unpaved parking lots is located near the park entrance and is approximately 75' x 175'. The second unpaved lot, which is reserved for recreational vehicles, is located *mauka* of the comfort station and is about 60' x 100'. Of the three paved parking lots, one is reserved for campers, the second is located in front of the caretaker's residence/office, and the third is located near the lookout area. The paved parking lot reserved for campers has 16 marked stalls while the parking lot near the lookout has 22 standard parking stalls and 1 handicap stall. During peak visitor hours at the park, which is generally from 10:00 a.m. to 3:00 p.m., the parking lots are usually filled to capacity and visitors park along the roadway within the park.

Park Office/Caretaker's Residence: The Park Office and Caretaker's Residence share a single structure south of the campgrounds near the park entrance. The Caretaker's Residence is about 890 square feet and consists of three bedrooms, a living room, dining/kitchen area, and a bathroom. The Office is about 480 square feet. The building also has a 490 sq. ft. carport and a covered patio area for a washing machine, dryer, and a service sink. The building was renovated in 2002.

Maintenance Building:

A maintenance building used to store tools, equipment, and various material is located on the *mauka* side of the access road between the park entrance and the cabins. The maintenance building has a gross floor area of about 473 sq. ft.

4. PARK RESOURCES AND MANAGEMENT CONSIDERATIONS

Management considerations for achieving the goals set forth for Wai‘ānapanapa State Park are presented at three tiers. At the first tier, management considerations focus on achieving the goal for preserving the park’s natural, cultural and scenic resources. At the second tier, management considerations focus on achieving the goal of public use and enjoyment by accommodating and enhancing public use of the park’s natural, cultural, and recreational resources. At the third tier, park infrastructure and facilities required for the park’s operation are discussed.

4.1 Preserving Natural and Scenic Resources

4.1.1 Flora

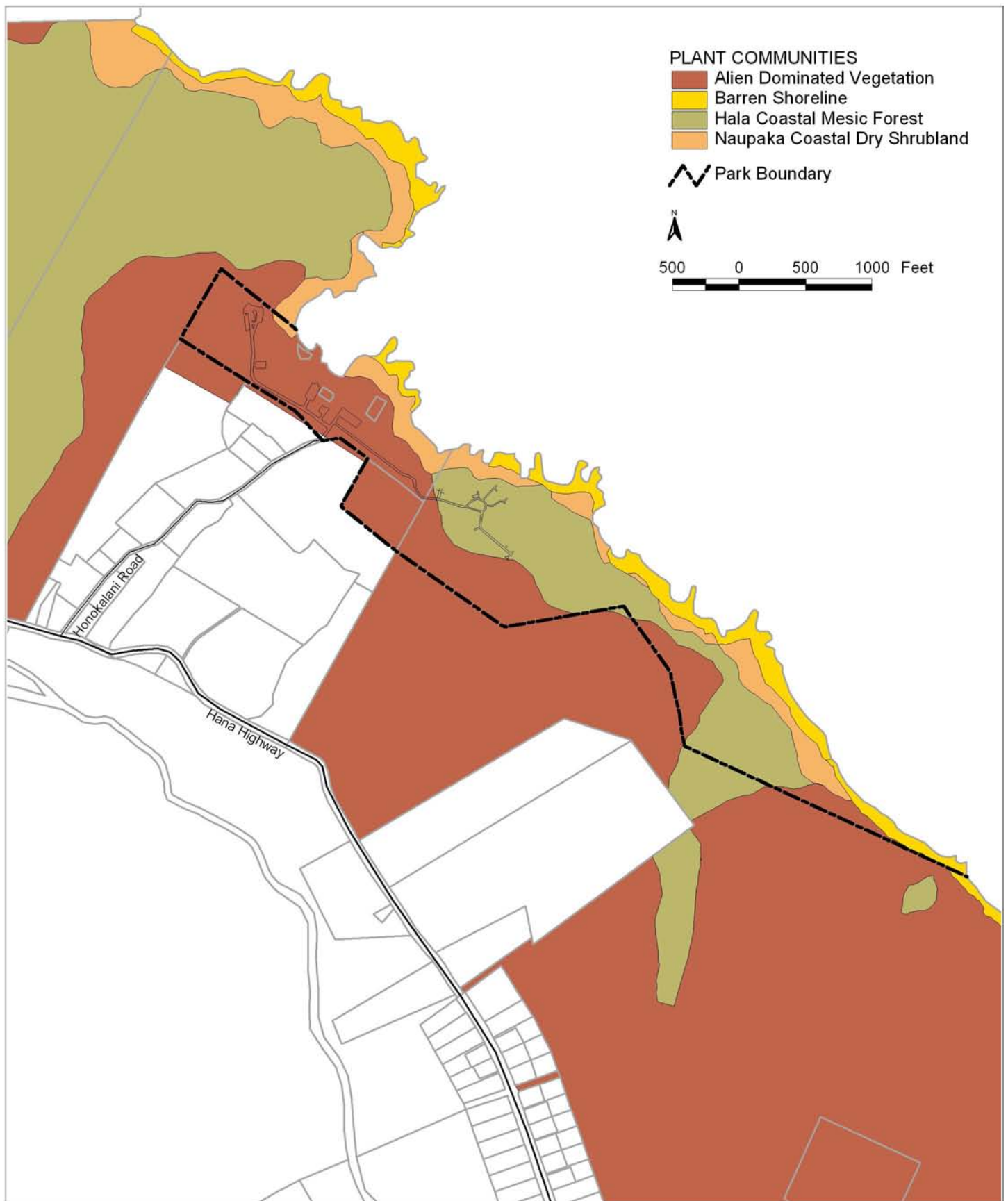
Although much of the vegetation at Wai‘ānapanapa State Park consists of introduced species, there are significant plants and plant communities within and in the vicinity of the park that require consideration. These botanical resources include stands of *hala* in the central and southern portion of the park, the large *hala* forest immediately north of the park, and the *naupaka* coastal dry shrubland community present along much of the park’s coastline. The large *hala* forest north of the park deserves special consideration as it is one of the few intact *hala* forests in the state and is representative of a native coastal forest ecosystem. In addition, a survey conducted by the Hawai‘i Heritage Program in 1992 identified one “rare” plant species in Wai‘ānapanapa State Park, *Pua pilo* (*Capparis sandwichiana*, L.), and another “rare” plant, *Ischaemum byrone*, outside of the park boundary near Pa‘iloa Bay. A botanical survey conducted for the master plan in September 2002, however, did not find *Capparis sandwichiana*, L. or *Ischaemum byrone*, although the survey did not include the area where *Ischaemum byrone* was found in 1992. Plant communities identified by the 1992 Hawai‘i Heritage Program survey are shown in Figure 4.

Objective: *To protect, enhance and provide opportunities for public enjoyment and appreciation of significant plants and plant communities at Wai‘ānapanapa State Park.*

Guidelines:

Protection and Preservation

- Preserve the remaining stands of *hala* forest within the park and maintain their integrity by controlling the spread of alien species into these stands of *hala* forest.



Wai'anapanapa State Park Master Plan

Figure No.

Plant Communities

4

- Preserve the native coastal plant communities within the park.
- Promote restoration of native vegetation where appropriate and use native vegetation that would occur naturally in park landscaping.
- Consider extending the park boundary to include the large *hala* forest adjoining the park to preserve this significant resource.

Access and Use

- Avoid development of new park facilities that encroach into the remaining stands of *hala* forest within the park.
- Manage park user activities to avoid trampling and disturbing native coastal plant communities within the park and along coastal trails beyond the park. This could be achieved by designating and marking paths that reduce impacts on native vegetation, providing directional signage and educating users.

Enjoyment and Appreciation

- Feature existing native vegetation and use appropriate native vegetation in park landscaping along paths, roads, parking areas, etc. A landscape and planting plan for the park should be prepared based on the natural occurrence of native species and the phasing out of exotic species, such as false kamani (*Terminalia catappa* L.) and African tulip (*Spathodea campanulata* P. Beauv.).
- Provide an educational/interpretive program that promotes greater appreciation of native vegetation through displays and signage.

4.1.2 Fauna

There are several faunal species that have been observed at Wai‘ānapanapa State Park that require special consideration. These species include the endangered Hawaiian hoary bat (*Lasirus cinereus semotus*) which has been observed foraging over the *hala* forest and near-shore areas, the endangered endemic Hawaiian Petrel (*Pterodroma sandwichensis*), and the threatened Newell’s Shearwater (*Puffinus auricularis newelli*) which has been observed in the Hāna region. In addition, the native shrimp *Metabetaus lohena* may be present in the wet caves at Wai‘ānapanapa.

At least four Hawaiian hoary bats were observed foraging over the *hala* grove and near-shore areas of Wai‘ānapanapa State Park during a faunal survey prepared in 2003 for the master plan. The detection of the Hawaiian hoary bat is considered

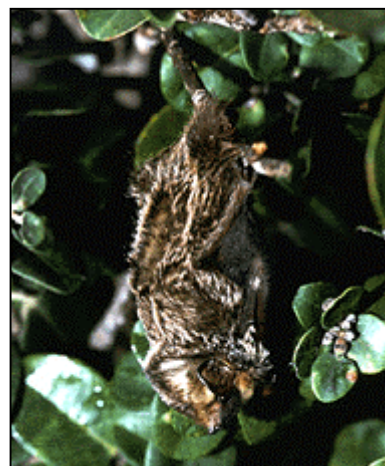
significant because historically there have been very few documented sightings of the bat on the island of Maui. The apparent scarcity of the bat on Maui, however, may reflect a lack of data rather than the true status of the species on Maui.

Steps that can be taken to minimize impact to the bat may include minimizing disturbance to the *hala* forest, as this appears to be a regular foraging area for the species. According to the faunal survey, the existing structures and construction of new structures at Wai‘ānapanapa State Park are unlikely to have a deleterious impact on the bat.

Although neither the Hawaiian Petrel nor the Newell’s Shearwater were observed during the faunal survey, both of these species have been reported to fly over the Hāna area. Nocturnal seabirds, such as the Hawaiian Petrel and Newell’s Shearwater, can become disoriented by exterior lighting and often collide with manmade structures, resulting in injury or death to the bird.

The native shrimp *Metabetaus lohena*, commonly called ‘Ōpae ‘ula, is a candidate for listing as threatened or endangered by the U.S. Fish and Wildlife Service and has been reported within the anchialine ponds at Wai‘ānapanapa as recently as 1992. During recent site visits to Wai‘ānapanapa

State Park, however, it appears that alien fish species, including guppies, have been introduced to the ponds and the native shrimp were not observed. In addition to the shrimp’s status as a candidate for listing as a threatened or endangered species, the shrimps are also culturally significant because of its association with the Legend of Wai‘ānapanapa.



Hawaiian Hoary Bat.



Hawaiian Petrel.



Newell's Shearwater.



‘Ōpae ‘ula.

The Green Sea Turtle (*Chelonia mydas*) is known to frequent waters immediately offshore of Wai‘ānapanapa State Park. The green sea turtle is a federally listed threatened species.

Objective: *To protect endemic and indigenous faunal species at Wai‘ānapanapa State Park and their habitats, particularly those that are threatened, endangered or culturally significant.*

Guidelines:

Protection and Preservation

- Preserve remaining stands of *hala* forest within the park as foraging areas for the Hawaiian Hoary bat.
- Protect and restore ‘Ōpae ‘ula within the anchialine ponds. This may include efforts to remove alien fish species in the pond.

Access and Use

- Assess the impact of recreational swimming in the Wai‘ānapanapa Caves on the ‘Ōpae ‘ula as basis for developing management policies regarding this activity.
- Minimize the use of outdoor lighting and provide shielding, as appropriate, to minimize impacts to nocturnal seabirds.

Enjoyment and Appreciation

- Provide an educational/interpretive program that promotes greater appreciation of native flora and fauna through displays and signage.

4.1.3 Scenic Resources and Geological Features

Coastal views within and beyond Wai‘ānapanapa State Park are a valuable scenic resource and includes impressive geological features such as Pa‘iloa Bay, inlets and promontories, sea caves, rocky islets, sea cliffs, two spectacular sea arches, and a blowhole. The anchialine pools and caves are also valuable scenic attractions. Integral to the scenic qualities of the park is the abundance of natural vegetation, including forested areas within and beyond the park. Within the park, plant communities intermixed with landscaped areas complement and enhance the scenic attractions.

Objective: *To preserve viewplanes and significant geological features at Wai‘ānapanapa State Park and enhance opportunities for public enjoyment of these resources.*

Guidelines:

Protection and Preservation

- Preserve scenic *mauka* and *makai* views and the scenic character of Wai‘ānapanapa State Park, including the coastal geological features and forests.
- Establish a shoreline setback to preserve the natural setting and views.

Access and Use

- Site new park facilities to avoid obstruction of scenic view planes.
- Design new and renovated park facilities to complement the natural character of the park through appropriate architecture and landscaping.
- Locate roads, parking areas, walkways and trails to accommodate access to scenic points based on level of demand and protection of natural and cultural resources. Design access routes to complement the natural settings in which they are located.

Enjoyment and Appreciation

- Provide an educational/interpretive program that promotes greater appreciation of sightseeing opportunities and geologic features.
- Promote photographic opportunities.

4.1.4 Water Resources

Surface water resources in the vicinity of Wai‘ānapanapa State Park include anchialine ponds and coastal waters offshore of the park. The anchialine ponds, which are located near Pa‘iloa Bay at Wai‘ānapanapa cave, are outside of the park’s boundary but accessible through the park. The anchialine ponds provide a habitat for the native shrimp *Metabetaus lohena*, a candidate for listing as threatened or endangered by the U.S. Fish and Wildlife Service.

Coastal waters off of Wai‘ānapanapa State Park are designated as Class AA waters by the State Department of Health. The objective of Class AA waters is that they remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions.

Objective: To protect water resources and maintain a high level of water quality at Wai‘ānapanapa State Park.

Guidelines:

Protection and Preservation

- Direct stormwater runoff from parking lots, roadways, and paved surfaces to detention basins, drywells, and swales to minimize discharges into coastal waters.
- Replace all cesspools at the parks with septic systems to minimize leaching pollutants into coastal waters.

Access and Use

- Maintain access to the anchialine ponds and coastal waters.

Enjoyment and Appreciation

- Monitor swimming in the anchialine ponds and if necessary implement measures to prevent adverse impact to this resource.
- Maintain the shower facilities at the comfort station near Pailoa Bay.

4.2 Preserving Historic/Cultural Resources

4.2.1 Archaeological Resources

An archaeological inventory survey conducted in 2002 for the master plan identified numerous archaeological features within the park. The features consist of enclosures, walls, cairns, terraces, pavements, platforms, trails, caves, upright stones, U- and L-shaped enclosures, mounds, overhangs, alignments, cemeteries, C-shapes and several miscellaneous site types. Functions associated with these features include permanent and temporary habitation, ceremonial use, agriculture, transportation, burial, boundary markers, and rock art.

The sites, particularly those in the central and southeastern portion of the park, represent the well preserved remains of traditional Hawaiian settlement on the Hāna coast that have largely escaped disturbance by plantation agriculture and ranching. Radiocarbon dating from the cave at Site 5372 indicates that settlement in the project area dates to at least as early as the late A.D. 1200's to 1300's. The date from the platform at Site 5366 indicates occupation between the 1400's and mid-1600's.

The 'Ōhala heiau complex (Site 5364) consists of a large platform (Feature A) that is over 350 square meters in area and fourteen other features that are grouped together. The other large features include a 90 sq. meter platform adjacent to the northwest side of the main platform (Feature B); a 115 sq. meter platform on a knoll

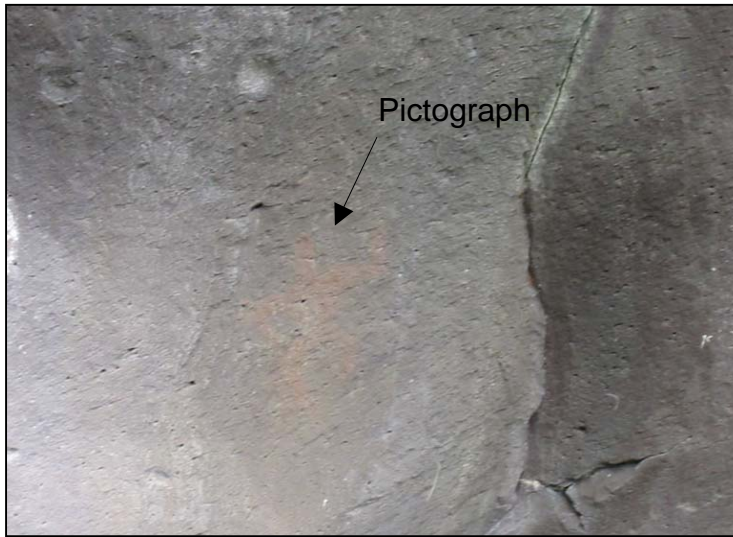


‘Ōhala Heiau.

overlooking the site (Feature D); a 115 sq. meter terrace adjacent to Feature D (Feature E); and an extensive paved area over 600 sq. meters in area. A test excavation in Feature D did not recover any portable remains that would indicate it was used for habitation. However, another test excavation in a small platform at the edge of the large pavement (Feature G) encountered food remains indicating habitation at that part of the site. The complex probably represents a communal construction effort and potentially indicates at least the periodic presence of a sizable number of ritual observers or participants.

A number of large enclosures, ranging from 103 sq. meters to over 12,000 sq. meters appear to represent enclosed yards for permanent residential structures that served to exclude free ranging cattle. Additional examples are probably represented by the large enclosures formed by segments of the Site 5367 network of walls. In several cases, there is no surface architectural evidence of residential structures within the enclosures. However, this does not preclude the former presence of pole and thatch structures that may have been built without stone foundations and may have been destroyed or are no longer visible.

Permanent habitation features within the park are clustered within three areas. There is a small cluster of four sites at the southeast-central portion of the park (Sites 5349, 5350, 5355, and 5356). The most dense cluster, consisting of eight sites, is situated on the northwest side of the ‘Ōhala heiau complex (Sites 5362, 5363, 5369, 5371, 5372, 5374, 5377, and 5388) and a moderately dense cluster of



Pictograph on cliff face

eleven sites spans the northwestern portion of the park (Sites 5381, 5382, 5384-6, 5388, 5389, and 5392-5). The latter two clusters would represent nucleated, village-like settlements, if the sites were occupied contemporaneously. This is likely for the northwestern cluster because most of the sites include large yard enclosures. The central habitation cluster consists of sites with and without

enclosing walls. The absence of enclosing walls at most of the sites and radiocarbon dates from two sites in the cluster indicate prehistoric occupation. The association of this cluster with a heiau and human teeth, probably from a burial cave in Site 5372, provide further support that it may have been a traditional Hawaiian permanent occupation. The presence of ritual and mortuary activity lends support to the probable presence of a village size settlement.

Three privately owned historic cemeteries (Sites 5390, 5396 and 5397) are located within the park boundaries. The cemeteries are considered to be culturally significant due to the presence of human remains of probable Hawaiian ancestry as well as other ethnic groups. Plaques and inscriptions at the cemeteries date the graves to the early 1920's, although the majority of the graves are unmarked so it may be possible that older graves exist. All three cemeteries continue to be used and are well maintained.

Portions of the coastal trail are remnants of the KihaaPi'ilani Trail that was constructed in the 1600's by the Maui chief KihaaPi'ilani. The trail is considered significant because of its association with KihaaPi'ilani and the broad pattern of history represented by his rule, which is credited with the construction of the trail and other public works projects during the 1600's. The locations of the archaeological features identified by the inventory survey are shown in Figure 5 and a summary of the features is provided in Table 1.

According to the Rules Governing Procedures for Historic Preservation Review, in order to be considered historically significant a site must possess integrity of location, design, setting, materials, workmanship, feeling, and association and meet one or more of the criteria listed in Table 2.

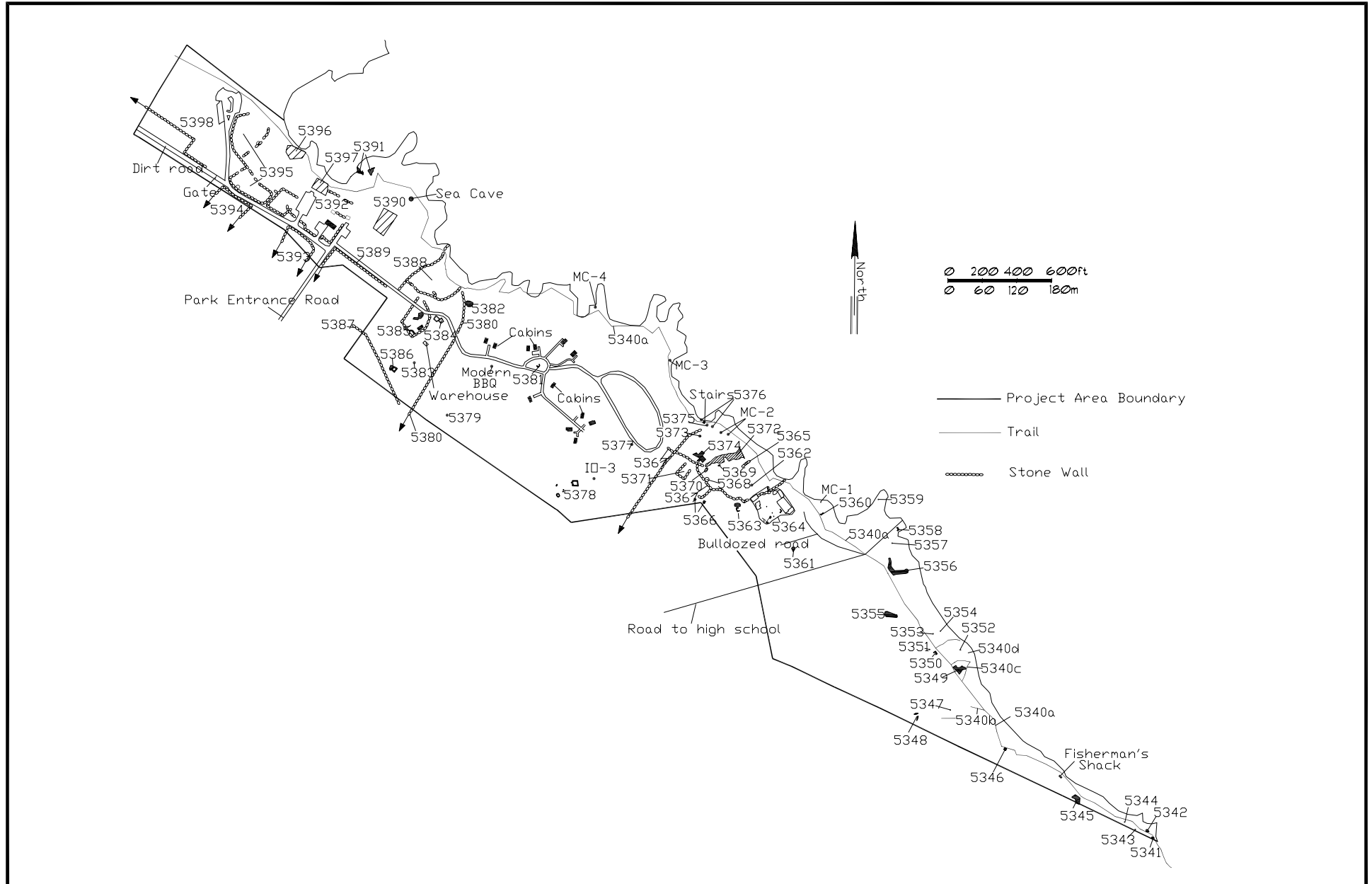
Based on the criteria in Table 2, all fifty-nine sites are assessed as significant under Criterion “d”. Sites 5356, 5364, 5372, 5374, and 5376 are additionally assessed as significant under Criterion “c”. Site 5372, and the cemeteries (Sites 5390, 5396, and 5397) are culturally significant under Criterion “e” because of the presence of human remains of probable Hawaiian ancestry. The coastal KihaaPi’ilani Trail (Site 5340) is assessed as significant under Criterion “e”, “a”, and “b”, for its cultural significance and because of its association with the Maui chief Kihaapi’ilani and the broad pattern of history represented by his rule, including the construction of the trail and other public works projects during the 1600’s.

Objective: To protect and preserve significant historic and cultural sites at Waiʻānapanapa State Park and to promote awareness and understanding of the park’s cultural history.

Guidelines:

Protection and Preservation

- Preserve, protect, and manage known archaeological and cultural sites.
- Monitor archaeological sites within the park, and to the KihaaPi’ilani Trail beyond the park, to identify and assess threats and impacts for management.
- Stabilize and/or restore archaeological sites, as appropriate, to retain their historical integrity.
- Deter access to sensitive archaeological features where visitation may threaten the park site or cultural value, such as the habitation caves in the central portion of the park, which may have also had a burial function (Site 5372). The pictographs and petroglyphs in the park should also be protected.
- Establish buffers around archaeological and cultural sites that promote the cultural landscape and historical setting.



Wai'anapanapa State Park Master Plan

Figure No.

Archaeological Sites

5

TABLE 1 (Continued)
SUMMARY OF ARCHAEOLOGICAL FEATURES AT WAI'ANAPANAPA STATE PARK

SIHP Site No.	Type	No. of Features	Formal Type																			Function													Haun & Associates Field Designation (2002)	Pearson Site #	
			Enclosure	Wall	Cairn	Terrace	Pavement	Platform	Trail	Cave	Upright	U-shape	Mound	L-shape	Overhang	Alignment	Cemetery	C-shape	Cupboard	Modified outcrop	Pictograph	Petroglyph	Permanent Habitation	Ceremonial	Temporary Habitation	Habitation	Marker	Agriculture	Transportation	Historic Burial	Livestock control	Boundary	Rock art	Burial			Storage
5371	Enclosure	1	1																		1															56	
5372	Complex	6		3					3												5											1			8	21	
5373	Overhang	1												1									1												4	22	
5374	Complex	4				3									1						4														83	-	
5375	Overhang	1												1									1												2	16	
5376	Complex	2																		1	1										2			68/85	23		
5377	Enclosure	1	1																		1														78	31	
5378	Complex	4	2									1							1			1					3								58/59/60/61		
5379	Mound	1									1																1								61a		
5380	Wall	1		1																									1						43	32	
5381	Enclosure	1	1																		1														69		
5382	Pavement	1				1															1														70		
5383	Mound	1										1														1									80	-	
5384	Complex	2	2																		2														44	33	
5385	Enclosure	1	2			2															4													45/46/79/81	24/34		
5386	Complex	2	1			1															2														82	-	
5387	Wall	1		1																									1						83a	-	
5388	Complex	2	2																		2														47	26/27	
5389	Enclosure	1	1																		1														71		
5390	Cemetery	1														1													1						49	30	
5391	Complex	2							2														2												48	28	
5392	Complex	5	5																		5														73/75		
5393	Enclosure	1	1																		1														75		
5394	Enclosure	1	1																		1														75		
5395	Enclosures	4	4																		4														75/76/77		
5396	Cemetery	1														1													1						74	29	
5397	Cemetery	1														1													1						72	29	
5398	Wall	1		1																										1					84	-	
			24	6	0	6	1	0	0	5	0	0	3	0	2	1	3	0	0	1	1	1	36	0	4	0	0	5	0	3	3	0	2	1	0	0	

TABLE 2
RULES GOVERNING PROCEDURES FOR HISTORIC PRESERVATION REVIEW
HISTORIC SIGNIFICANCE CRITERIA

Criterion A	Association with events that have made an important contribution to the broad patterns of our history
Criterion B	Association with the lives of persons important in our past
Criterion C	Distinctive characteristics of a type, period, or method of construction, represent the work of a master, or possess high artistic value
Criterion D	Have yielded, or is likely to yield, information important for research on prehistory or history
Criterion E	Have an important traditional cultural value to the native Hawaiian people or to another ethnic group of the state due to associations with traditional cultural practices once carried out, or still carried out, at the property or due to associations with traditional beliefs, events or oral accounts—these associations being important to the group’s history and cultural identity.

Access and Use

- Avoid development of new park facilities that encroach into archaeological sites and buffers.
- Manage and monitor park user activities to avoid damage to archaeological sites within and adjacent to the park.
- Direct park users away from sensitive archaeological sites by redefining paths and trails, providing directional signage and withholding information on specific locations.
- Heighten awareness of culturally sensitive sites, such as cemeteries, and promote respectful behavior at these sites through signs and symbolic barriers, such as walls and vegetation.

Enjoyment and Appreciation

- Provide an educational/interpretive program that promotes greater appreciation and understanding of archaeological and cultural sites, such as ‘Ōhala Heiau, Wai‘ānapanapa Caves, the pictograph and petroglyph, and the ancient stepping stone trail. The programs should inform park users of their historical and cultural significance, the sensitivity of the sites, and request that they not be disturbed.

4.2.2 Cultural Resources and Activities

A Cultural Impact Assessment for Wai'ānapanapa State Park was prepared by Maria E. Ka'imipono Orr in November 2002. According to the assessment, the Hāna district has a long history of settlement, extending at least 700 years and possibly longer. Prior to western contact, the Hāna district was well known and sought after for its abundant resources. Crops that were cultivated in the Hāna district included both wet and dryland *kalo* (taro), *'uala* (sweet potatoes), *mai'a* (bananas), *'ulu* (breadfruit), *māmaki*, *'awa*, and *noni*. A large *hala* forest that extended from Kawaipapa to 'Ula'ino was also a valuable resource. Items crafted from the *lauhala*, the leaves of *hala*, include canoe sails, baskets, mats, and hats.

While there are numerous legends and myths relating to the Hāna region, one legend of particular relevance to Wai'ānapanapa State Park is the Legend of Wai'ānapanapa. In short, the legend tells of a young Princess, Popoalaea, who fled from her husband, Kāka'e, a powerful warrior chief who had threatened to kill her. Popoalaea hid with her maid in a cave (Wai'ānapanapa cave) but they were eventually found by Kāka'e and killed. The



Wai'ānapanapa cave.

The gods of nature thought that this deed was so terrible that they made the cave sacred to the memory of the princess and set a guardian angel over it. To this day the rocks are stained with the blood of Popoalaea and the sides are covered with white flakes of brain particles. The cave has since been called Wai'ānapanapa, water flashing rainbow hues, because at the death of Popoalaea, it is said that the cave sparkled with rainbow atoms which the gods sent in their pity and which her guardian angels spread forth. Also, in the spring, the stones are said to be a redder hue caused by the gathering of 'ōpae 'ula, the sign of forgiveness or the casting out of an evil spirit.

Ongoing cultural activities at Wai‘ānapanapa State Park include fishing, and gathering of marine resources, such as *limu* (seaweed), crabs, and ‘*opihi* (a limpet). There is also the gathering of plants from the park such as *kukui* (*Aleurites moluccana* L.), *niu* (coconut, *cocos nucifera* L.), ‘*ulu* (Breadfruit, *Artocarpus altilis*), *wauke*, *māmaki*, *noni* (*Morinda citrifolia* L.), false *kamani* (*Terminalia catappa* L.), mango (*Mangifera indica* L.), guava (*Psidium guajava*), ferns and *ti* (*Cordyline Fruticosa* L.).

Concerns regarding cultural resources are related to gathering of marine resources, park expansion and its impact to adjacent landowners, and the need for protection of archaeological sites and private cemeteries.

Objective: To allow the continuation of traditional cultural practices.

Guidelines:

Protection and Preservation

- Manage fishing and marine gathering as needed to maintain a desired level of marine resources and insure their productivity as a fishery.
- Manage the gathering of plant resources, particularly native plant resources to maintain their productivity.
- Manage park activities to protect cultural resources, such as the gravesites, and promote respect for the cultural resources within and beyond the park by establishing buffers, barriers, and signs.

Access and Use

- Preserve access, including vehicular access and parking, to the shoreline for residents to engage in traditional gathering practices.
- Preserve trail access to culturally significant plant resources within the park.
- Avoid development of new park facilities in areas used for traditional shoreline and plant gathering activities.
- Direct high volume park usage away from areas used for traditional shoreline and plant gathering activities.
- Ensure access to cemeteries by descendants and promote respect for these sites by park visitors.

Enjoyment and Appreciation

- Provide an educational/interpretive program that promotes greater appreciation and understanding of native cultural practices and resources. Cultural

resources where interpretive signage may be appropriate include Wai‘ānapanapa Cave, the edge of the *hala* forest, and selected archaeological sites.

4.3 Public Use and Enjoyment

Alternative management considerations for the public’s use and enjoyment of the natural, cultural and recreational resources address access, quality of the park experience, and opportunities for enhancing enjoyment during a park visit.

4.3.1 Sightseeing and Picnicking

Based on a park user assessment conducted by DLNR staff on April 26 and 27, 2002, sightseeing is one of the primary attractions at Wai‘ānapanapa State Park. The most popular sightseeing area is along the coastline near Pa‘iloa Bay. Sightseeing is frequently associated with rest stops for the long drive along Hāna Highway and, consequently, the comfort station is an important supporting facility. Also popular in conjunction with sightseeing is picnicking in a grassed area between the parking lot and comfort station. In recent years, commercial tours have incorporated the park as a sightseeing and picnicking activity as well as a rest stop.

Objective: To provide opportunities for the public to enjoy the scenic and natural resources at the park.

Guidelines:

Protection and Preservation

- Manage high volume sightseeing and picnicking activities to avoid degradation of the natural, scenic, and cultural resources.
- Provide alternative viewing areas to avoid impacts from heavy traffic and overuse.

Access and Use

- Direct vehicular access to high demand sightseeing opportunities, which are in the vicinity of Pa‘iloa Bay, to avoid degrading the experience of other park users. To the extent possible, sightseeing areas should be closest to the park entrance and exit to minimize traffic through other areas of the park.
- Provide ample parking to discourage sightseers from using roads accessing other areas of the park to find alternative parking.
- Provide support facilities, including picnic tables and a comfort station to accommodate the high volume of users.



Coastal view near central portion of park.

- Direct high volumes of sightseers to primary sightseeing vantage points overlooking Paʻiloa Bay, as well as to picnic facilities and the comfort station by providing wide paved paths and directional signage from the parking area. These paths should provide wheelchair access.
- Direct lower volumes of sightseers to the less accessible sightseeing features, such as the black sand beach of Paʻiloa Bay and Waiʻānapanapa caves by providing narrower paved paths with directional signage. Due to the steep terrain, providing wheelchair access to these natural features may be technically infeasible.
- Direct interested sightseers to hiking trails offering sightseeing opportunities and design these trails to avoid potentially hazardous or sensitive natural areas and archaeological resources. Hikers should be informed of potential hazards by posting appropriate signage.
- Manage commercial tour operations in Waiʻānapanapa State Park to maintain opportunities for public access and use, particularly with regard to parking, and picnic tables. Management considerations may include collecting a fee from commercial vehicles (i.e. mini buses and vans), charging a user fee for certain recreational activities (i.e. hiking, picnicking, fishing and trailer camping), limiting

the number of parking spaces or picnic tables available for use and charging a user fee.

- Parking, pedestrian loading areas and comfort stations shall follow the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Picnic facilities, hiking trails, and associated signage shall follow the Accessibility Guidelines for Outdoor Developed Areas, Final Report.

Enjoyment and Appreciation

- Provide educational and interpretive programs for high volume sightseeing activities to enhance public appreciation of the park's natural and cultural resources. An educational/interpretive center near the parking area could feature educational displays, maps and park resource information. More site specific interpretive displays and signage could be provided at sightseeing attractions, scenic vantage points, along paths and at hiking trailheads.
- Provide interpretive displays for inaccessible scenic resources at accessible locations in accordance with Americans with Disabilities Act requirements.

4.3.2 Hiking

Waiʻānapanapa State Park provides the primary access point for the coastal trail that extends well beyond the park boundaries. To the north, the trail extends past the Hāna Airport and to the south, it extends as far as Hāna Bay. The volume of hiking activity is highest near Paʻiloa Bay as short hikes are taken in association with sightseeing, and diminishes with distance from Paʻiloa Bay. Campers at the park often pursue longer hikes during their stay. The main attractions of the coastal trail are its scenic views and natural landscape, particularly along the southern half of the park, which is undeveloped. The coastal trail also accesses fishing sites from the park.

Objective: To provide safe opportunities for hiking within the park that are consistent with preservation of the park's scenic, natural and cultural resources.

Guidelines:

Protection and Preservation

- Manage high volume hiking activity in and near the park with designated trails and paths to avoid impacts to natural, wildlife and cultural values.
- Monitor the historic coastal trail for impacts and conduct stabilization and restoration projects to maintain the trail's historical integrity.

Access and Use

- Direct hikers to the coastal trail from trailheads at the lookout at Paʻiloa Bay, as discussed previously for sightseeing. This will provide a focal point for disseminating directional and hiking safety information.
- Provide informational and directional signage on potential hazards for hikers going beyond park boundaries.
- Direct hikers away from sensitive archaeological sites by redesigning paths and trails, providing directional signage and withholding information on specific locations.
- Provide designated accessible trails that comply with the Accessibility Guidelines for Outdoor Developed Areas, Final Report.

Education and Appreciation

- Provide educational/interpretive signage along high volume trails in the vicinity of Paʻiloa Bay in conjunction with the overall educational/interpretive program.
- Provide an interpretive sign near the trailhead for the coastal trail with a map to orient hikers to trail conditions, distances, and resources.



Portion of historic coastal trail. Note stepping stones.

4.3.3 Swimming and Sunbathing

The black sand beach of Pa‘iloa Bay offers one of the few accessible areas for swimming and sunbathing in the Hāna area. Although the bay offers some shelter from generally rough ocean conditions that prevail throughout the year along this coastline, swimming and snorkeling within the bay can be hazardous except during exceptionally calm conditions. Several signs along the walkway to Pa‘iloa Bay warn of potentially strong currents and dangerous shorebreak. Most swimming and sunbathing is done in conjunction with other park activities, including sightseeing, picnicking and hiking, as well as camping.

Objective: *To provide safe opportunities for swimming that do not adversely affect natural and cultural resources at the park.*

Guidelines:

Protection and Preservation

- Swimming and sunbathing in coastal waters typically do not degrade natural, cultural and wildlife values, however, the impact of recreational swimming in Wai‘ānapanapa Caves on the ‘Ōpae ‘ula *should be assessed* to develop management policies regarding this activity.



Black sand beach at Pa‘iloa Bay.

Access and Use

- Provide pedestrian access to Pa‘iloa Bay for sunbathing and swimming.
- Provide well defined paths and directional signage from parking areas to Pa‘iloa Bay.
- Maintain comfort station facilities with showers in conjunction with facilities for sightseeing and picnicking.
- Provide warnings of hazardous ocean conditions at key locations.
- Provide ocean safety equipment at key locations.

Enhancement

- Provide educational and interpretive programs regarding shoreline marine life to enhance public appreciation of the park’s natural and cultural shoreline resources. An educational/interpretive center near the parking area could feature educational displays, maps and directional information.
- Establish a program for Wai‘ānapanapa cave that highlights its natural and cultural resource value.

4.3.4 Fishing

Shoreline fishing at Wai‘ānapanapa State Park is conducted primarily by residents of the Hāna area and by Hawai‘i residents visiting Hāna or camping in the park. Based on interviews conducted for the Cultural Impact Assessment, nearby residents have fished in the waters offshore of Wai‘ānapanapa State Park for several generations. Some residents also recalled that prior to establishment of the park, residents would have a *hukilau* in Pa‘iloa Bay, where they would gather to lay nets in the bay and then pull them out with their catch to enjoy in a *lū‘au*. Some residents also expressed frustration that establishment of the park and lookout area at Pa‘iloa Bay intruded into popular fishing areas.

Objective: To preserve marine resources while allowing the continuation of fishing and marine gathering at the park.

Guidelines:

Protection and Preservation

- Manage fishing and gathering of marine resources to maintain the productivity of these resources.

Accessibility and Use

- Encourage high volume sightseeing and picnicking near the Pa'iloa Bay area to minimize potential conflict with traditional marine gathering and shoreline fishing. Currently, the more popular fishing spots are reportedly in the central and southern portions of the park, in the vicinity of the cabins and further south.
- Provide ample parking near the Pa'iloa Bay lookout to accommodate fishing and gathering of marine resources within the bay and north of the park.
- Maintain existing paths that provide access to the shoreline, including the loop road in the vicinity of the cabins.

Enjoyment and Appreciation

- Provide an educational/interpretive program that promotes greater appreciation by park visitors of historic and traditional fishing and gathering practices at Wai'ānapanapa State Park.

4.3.5 Tent Camping

Tent camping is permitted at Wai'ānapanapa State Park within the one-acre campground located at the northern end of the park. Presently, the maximum number of campers allowed is 60, as there are 6 sites for a maximum of 10 campers per site. The campgrounds appear to be very popular with mainland and international visitors as about 62% of camping permits issued at Wai'ānapanapa between April 2001 and April 2002 were to U.S. mainland and international visitors. Charts showing the annual number of camping permits issued and campers place of residence are provided in Figures 6 and 7.

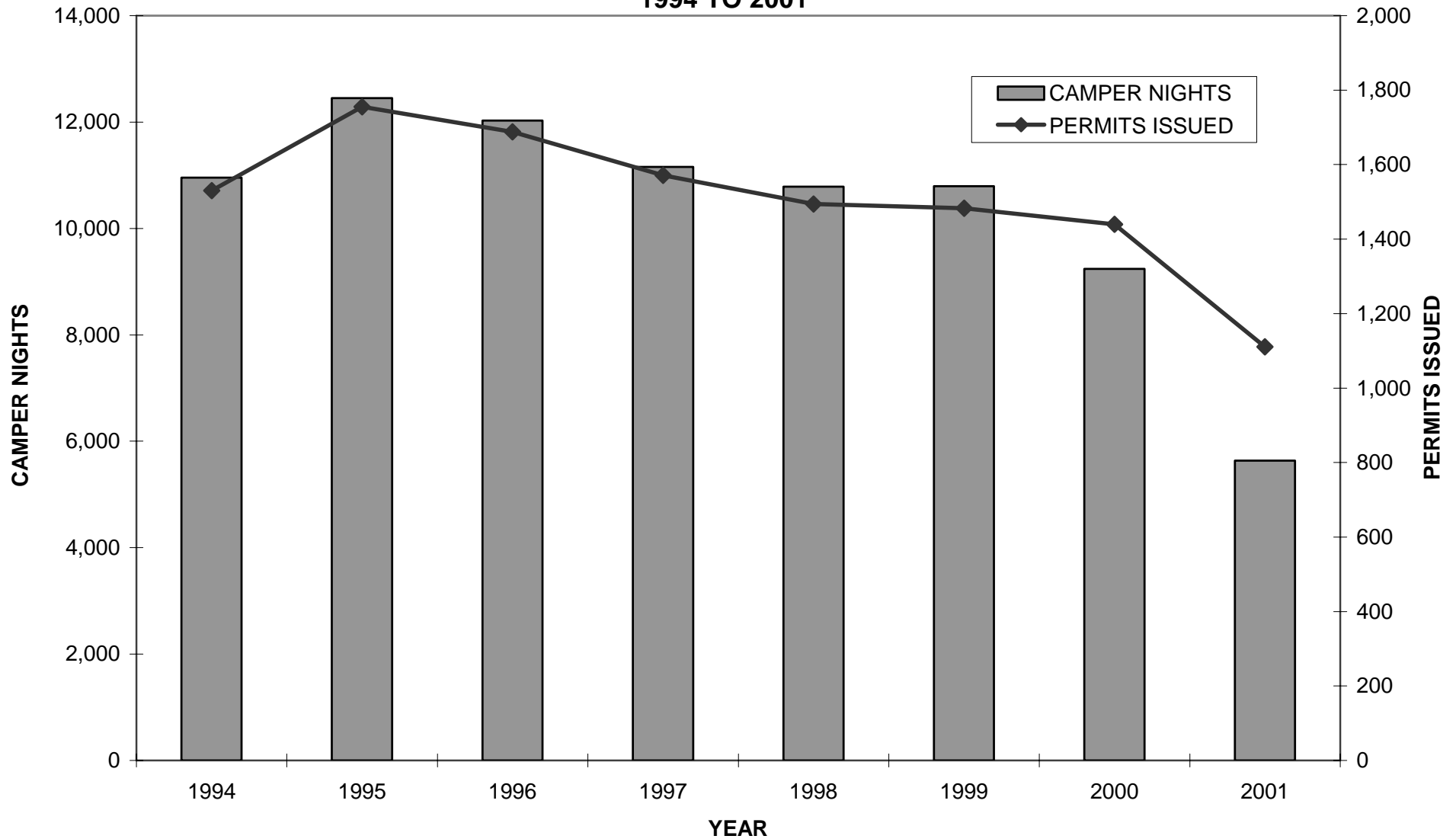
Objective: To provide opportunities for tent camping in a natural setting that will allow visitors to enjoy the park's natural, cultural, and scenic resources.

Guidelines:

Protection and Preservation

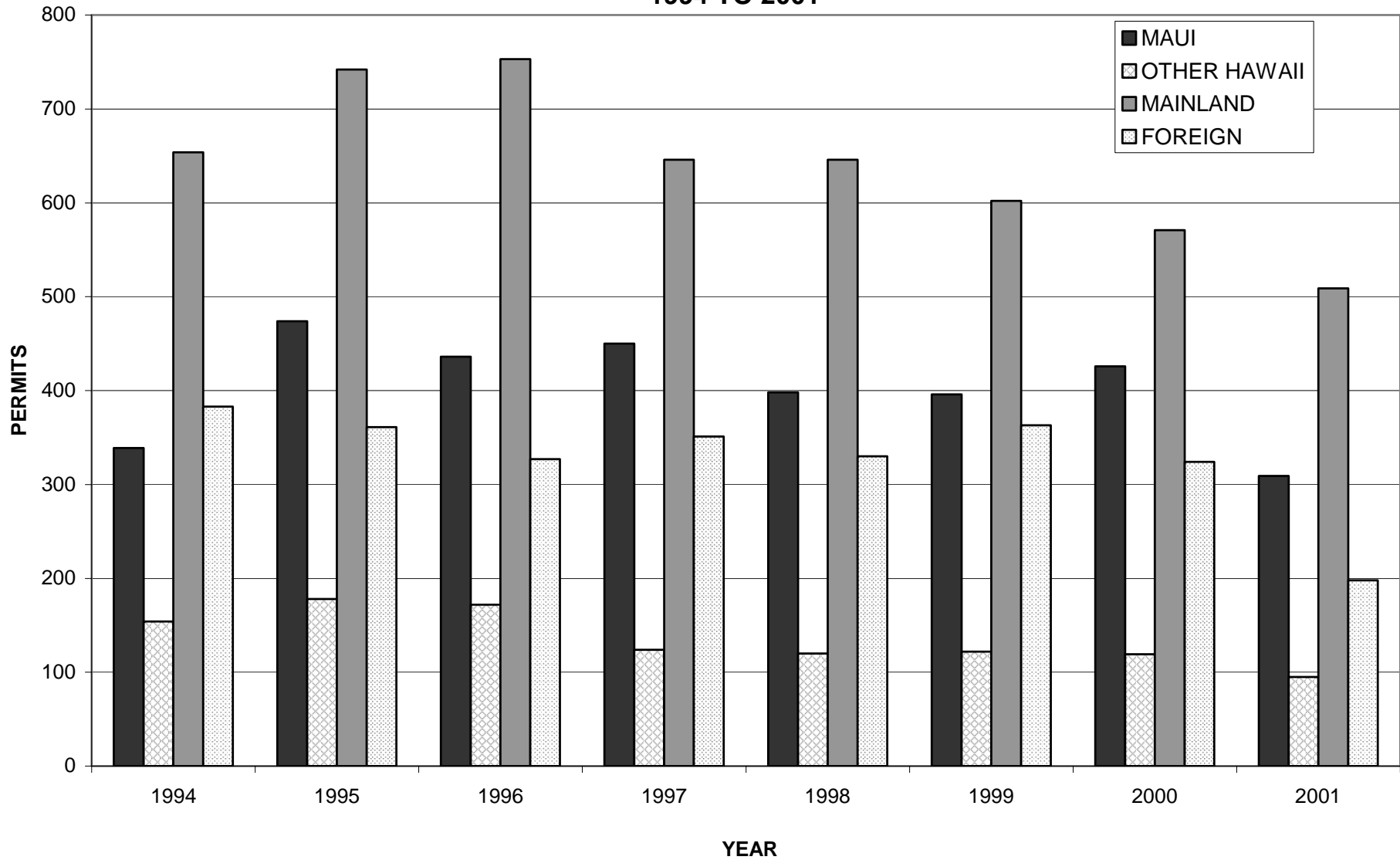
- Locate tent camping, a relatively low-impact activity, to avoid scenic, natural, and cultural resources.
- If the campgrounds are relocated, assess if any subsurface cultural deposits will be impacted by camping activities and, if necessary, establish rules to protect these resources.

FIGURE 6
WAI'ĀNAPANAPA STATE PARK
CAMPER NIGHTS & PERMITS ISSUED
1994 TO 2001



1. Park was closed from October 2001 to January 2002 due to dengue fever concern.
2. Camper Nights = Number of persons on a permit multiplied by number of nights. For example, if a permit was issued for 5 persons for 2 nights = 10 camper nights.
3. Permits Issued = Number of camping permits where camping started in the specified year.

FIGURE 7
WAI'ĀNAPANAPA STATE PARK
CAMPER'S PLACE OF RESIDENCE (BY PERMIT)
1994 TO 2001



1. Park was closed from October 2001 to January 2002 due to dengue fever concern.

Access and Use

- Locate tent camping sites to take advantage of the natural shoreline setting and associated recreational opportunities. Avoid locations in proximity to high park use areas with high noise levels.
- Provide typical support facilities near the campgrounds such as vehicular access and parking, comfort station, showers, picnic tables and bar-b-q areas.
- Enhance the natural setting experience and manage tent camping by establishing guidelines for the size of camping groups allowed, length of stay, permit fees, and advance reservations vs. on-site assignment.
- Provide designated accessible camping areas that comply with the Accessibility Guidelines for Outdoor Developed Areas, Final Report.

Education and Appreciation

- Design tent camping areas to enhance awareness and appreciation of the natural setting, including scenic coastal views and natural sounds unfettered by vehicular noises. Design landscaping to promote privacy and security.
- Educational/interpretive programs will provide opportunities for tent campers to enhance their enjoyment and appreciation of the park.

4.3.6 Cabins

There are 12 one-bedroom cabins at the park that are available to visitors for overnight use. A permit and fee for rental of a cabin are required. All of the cabins, which were constructed in the early 1970's, are identical in design and are approximately 500 sq. ft. in size . Each cabin also has an open lanai of about 160 sq. ft. The cabins are not ADA compliant.

The cabins are equipped with one full bath and a kitchen with an electric range and refrigerator. Each cabin has two single beds and two bunk beds that can accommodate up to 6 persons. Basic cooking utensils, bath towels, and linens are also provided. Telephone service is not provided at the cabins. Wastewater disposal for all of the cabins is via cesspool.

The cabins provide low cost lodging that is enhanced by the natural setting and the recreational opportunities in the park. Residents of Hāna and Maui use the cabins as weekend retreats, often inviting friends and relatives for gatherings. The cabins are also booked by Hāna residents for out-of-town visitors in lieu of more costly hotel rooms and bed and breakfast operations in Hāna. Hawai'i residents from other islands often rent the cabins for use much like hotel rooms for a weekend

vacation and their recreational activities may extend well beyond the park. Similarly, many overseas visitors stay at the cabins as a low-cost alternative to hotels and bed and breakfast operations in the Hāna area. These patterns of usage are familiar to residents and past visitors and significant changes are likely to be resisted by the community and past users.

The majority of cabin permits are issued to Hawai‘i residents. Between April 2001 to April 2002, a total of 1,341 cabin permits were issued; 58.1% to Hawai‘i residents; 39.7% to U.S. mainland visitors; and 2.2% to international visitors. In recent years, however, there has been a trend toward proportionally greater usage by Mainland visitors. Between 1997 and 2001, the number of permits issued to mainland visitors increased while the number of permits issued to Maui residents decreased, as shown in Figures 8 and 9.

An assessment of the cabins conducted in 2003 found that the cabins are showing varying degrees of deterioration and are reaching the end of their useful life. This offers an opportunity to consider management alternatives regarding their future role in the park. Issues that should be considered include the role that drive-up access and parking at the individual cabins has in contributing to their use as hotel-type lodging, venue for family gatherings, and in promoting the use of cars to access areas in the park. The appropriateness of providing cabins at the park should also be considered if they are not being used primarily for activities related to the enjoyment of the park’s natural, cultural and scenic resources. Finally, user fees that cover the cost of maintaining the cabins and that differentiate between state residents vs. non residents should also be evaluated.

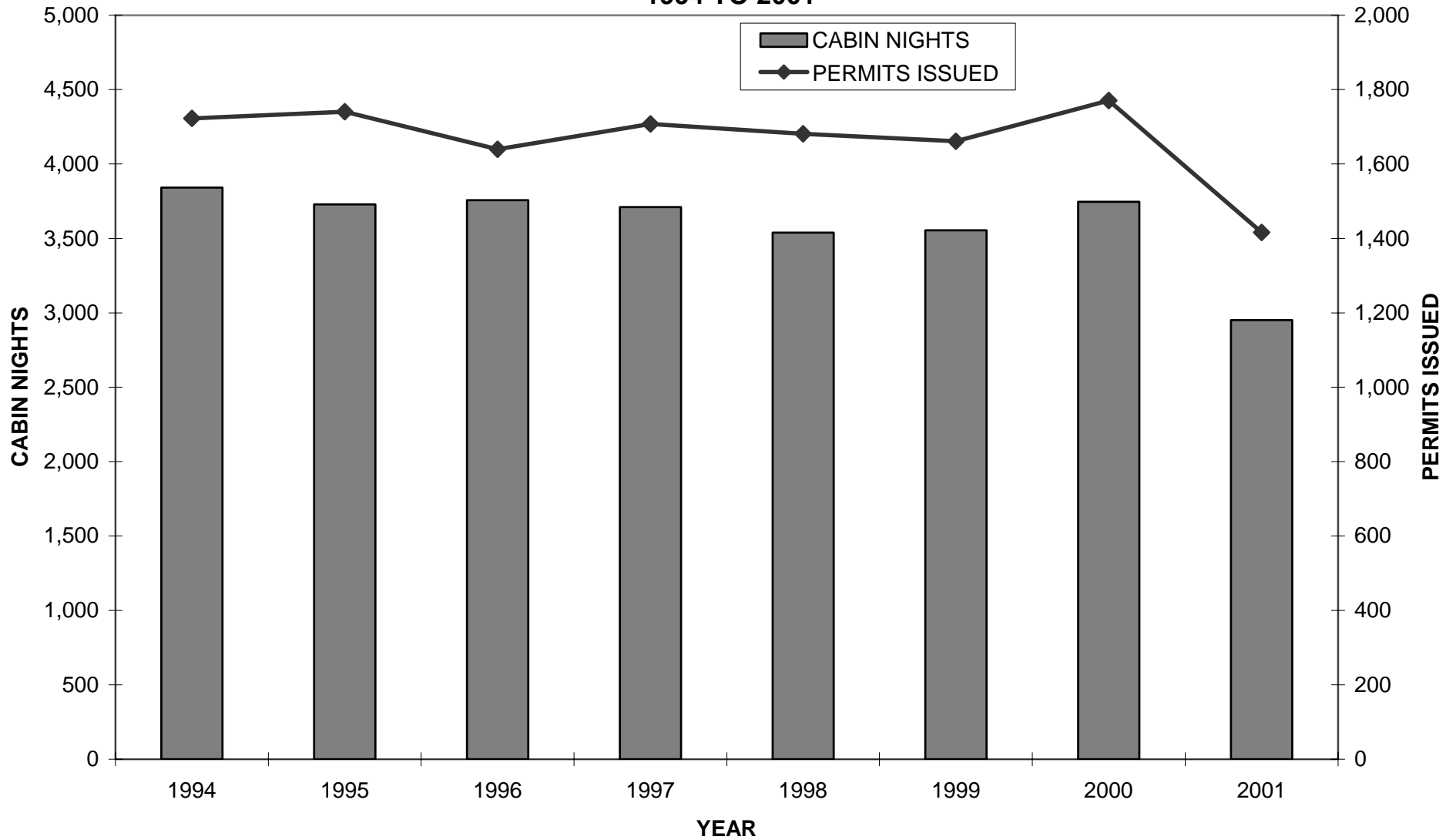
Objective: To provide opportunities for cabin camping in a natural setting that will have a minimal impact on the park’s scenic, natural, and cultural resources.

Guidelines:

Protection and Preservation

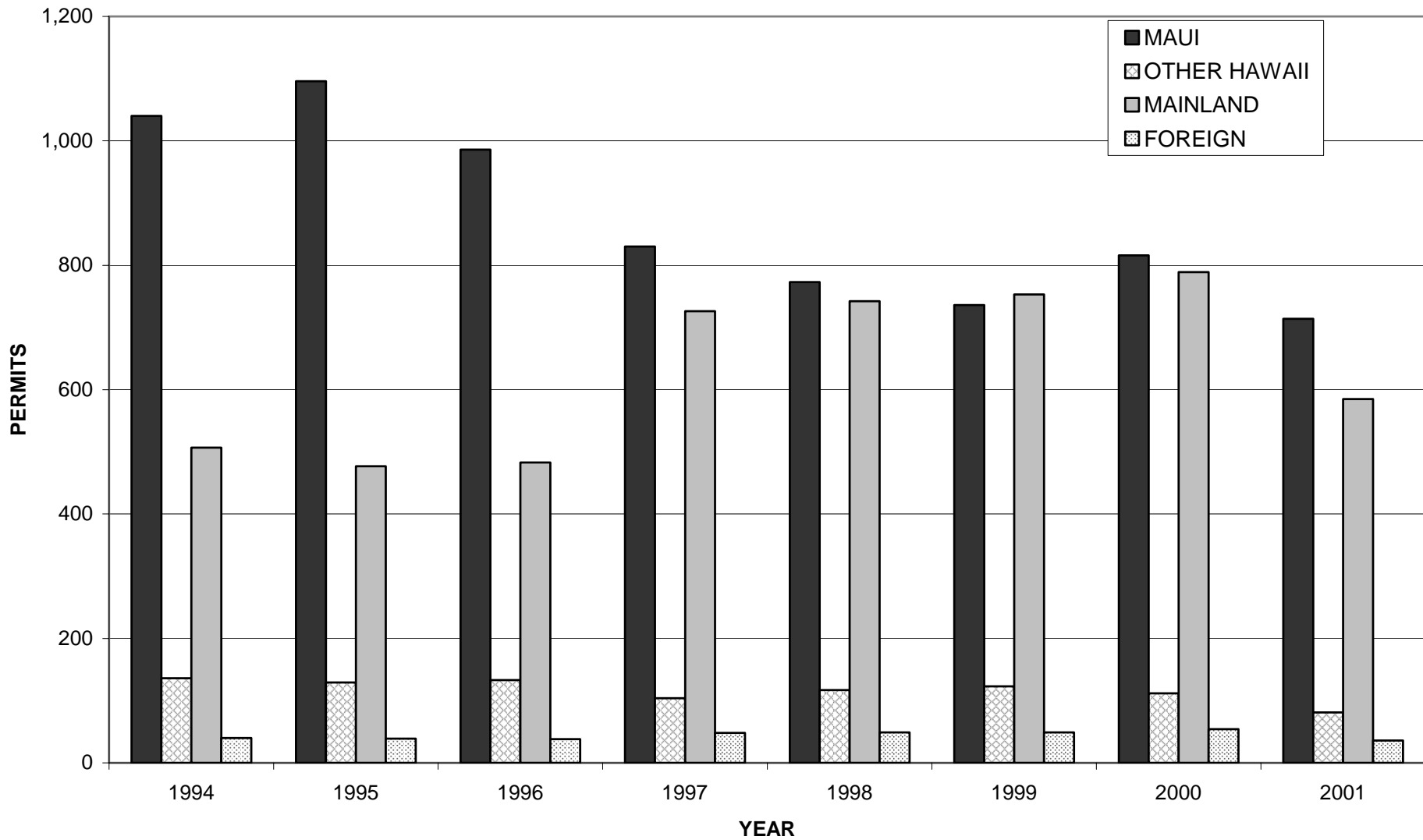
- Cabin renovation, replacement and new cabin development should avoid areas with natural, cultural, and scenic values. By retaining cabins in their existing location, there should not be any new impacts.
- Landscape cabin areas with native plants found in the area to preserve the natural setting and provide some privacy.

FIGURE 8
WAI'ĀNAPANAPA STATE PARK
CABIN NIGHTS & PERMITS ISSUED
1994 TO 2001



1. Park was closed from October 2001 to January 2002 due to dengue fever concern.
2. Cabin Nights = Number of persons on a permit multiplied by number of nights. For example, if a permit was issued for 5 persons for 2 nights = 10 cabin nights.
3. Permits Issued = Number of cabin permits where use of the cabin started in the specified year.

FIGURE 9
WAI'ĀNAPANAPA STATE PARK
CABIN USER'S PLACE OF RESIDENCE
1994 TO 2001



1. Park was closed from October 2001 to January 2002 due to dengue fever concern.

Access and Use

- Establish policies that encourage use of the cabins for public enjoyment of the park's natural, cultural and scenic values, rather than for hotel-type lodging or as a venue for family gatherings.
- Establish user fee structures and reservation policies that may favor cabin use by overseas visitors over Hawai'i residents at a State park.
- Provide ADA accessible cabins in compliance with Federal requirements.

Education and Appreciation

- Design cabins to enhance a recreational park experience and appreciation of the park's natural setting.
- Provide educational/interpretive programs that provide opportunities for cabin users to enhance their enjoyment and appreciation of the park.

4.3.7 Trailer Camping

A parking lot reserved for trailer campers is located in the vicinity of the campgrounds. Similar to tent camping, a permit is required to use the trailer camping site. Consideration should be given as to whether there is sufficient demand to provide an exclusive area for trailer camping as the present site appears to be underutilized.

Objective: To provide facilities that will enable trailer campers to enjoy the park's natural, cultural and scenic resources.

Guidelines:

Protection and Preservation

- Locate the trailer camping site to avoid natural, cultural and scenic resources.

Access and Use

- Provide supporting infrastructure such as access, a comfort station, and showers in close proximity to the site.
- Provide accessible trailer camping sites.

Education and Appreciation

- Design the trailer camping site to take advantage of the park's natural setting.
- Educational/interpretive programs will provide opportunities for trailer campers to enhance their enjoyment and appreciation of the park.

5. ALTERNATIVE PARK DEVELOPMENT CONCEPTS

Alternative development concepts that can be implemented to fulfill Wai‘ānapanapa State Park’s goals and objectives are presented below. These concepts are presented in three tiers. In the first tier, alternative locations for various public uses are considered. In the second tier, alternatives for supporting facilities based on the location of uses are considered. In the third tier, alternative design concepts for key facilities are offered.

5.1 Alternative Use Locations

Alternative locations for various public uses and park activities are based on preserving the natural, cultural and scenic values, the dependence of an activity on specific resources, the compatibility among uses and activities, and the cost of supporting infrastructure. These considerations are discussed below.

- Confining facility development to developed or previously disturbed areas will promote preservation of resources in most cases. Hence, locations for facilities such as roads, parking lots, comfort stations, picnic areas, tent and trailer camping areas, and cabins would generally be limited to shifting uses among areas they presently occupy.
- Uses that depend on specific resources may have no alternative locations. For example, the major sightseeing attractions in the park are in the vicinity of Pa‘iloa Bay, including panoramic coastal views of the bay and surrounding rugged coastline, the black sand beach, and Wai‘ānapanapa Cave. Sunbathing and swimming opportunities are also limited to the black sand beach at Pa‘iloa Bay. This area will continue to be the main attraction for the vast majority of park visitors.
- Uses that are enhanced by natural settings may be located with more flexibility within developed areas that provide a comparable setting. These include picnic areas, the campground, and cabins.
- Uses that may adversely impact the quality of experience of other uses should be separated. For example, high activity uses such as sightseeing, and the associated vehicular traffic and noise can degrade the experience of campers and cabin users.
- Complementary uses and activities with a common audience should be located in close proximity to each other. These uses include sightseeing, picnicking and areas for education and interpretation.
- Uses that require significant infrastructure and support facilities may be costly to relocate. For example, cabins require the full complement of infrastructure,

including an access road and parking, water supply, wastewater disposal and electrical service. Comfort stations that support sightseeing, picnicking and tent camping also require comparable infrastructure. To the extent that such facilities can be located to share supporting infrastructure or minimize the distance that supporting infrastructure must be extended, would reduce development costs.

Based on these considerations, alternative public use locations are discussed below and depicted in Figure 10:

Sightseeing – The primary sightseeing area should remain in the vicinity of Paʻiloa Bay which has become the primary high-volume visitor attraction in the park. Complementing uses include a picnic area, access to sunbathing and swimming opportunities in Paʻiloa Bay, access to trailheads for hiking, and opportunities for an education and interpretive center. Supporting infrastructure to accommodate the high volume visitation includes an access road, parking, comfort station and paths to the other park attractions.

Hiking – The coastal hiking trail should be retained as a historic feature and modified only if it is necessary to redirect hikers away from sensitive natural and archaeological resources or to stabilize the trail from shoreline erosion.

Picnicking – Picnicking opportunities can be located to complement and enhance other uses, such as sightseeing, sunbathing and swimming, hiking, tent camping and fishing. Picnic areas should be sized and designed to accommodate demand and facilities should include tables and trash receptacles. The largest picnic area should be near Paʻiloa Bay. To complement the high volume of sightseeing activity, the existing picnic area could be expanded to include the existing tent camping area, which would be relocated, as discussed below.

Swimming and Sunbathing – Swimming and sunbathing activities are generally limited to the black sand beach at Paʻiloa Bay.

Fishing – Fishing activities rely on gaining shoreline access, including vehicular access and parking. The unpaved parking lot across from the park entry should be retained to access the coastal trail. Fishermen should also be allowed to continue to access the shoreline from the loop trail *makai* of the cabins.



Wai'anapanapa State Park Master Plan

Conceptual Development Alternatives

Figure No.

10

Tent Camping – The tent camping area should be relocated away from high-volume sightseeing activities near Pa‘iloa Bay. One alternative location is in a pasture southeast of the existing park office and caretaker’s residence (see Figure 10). This location offers a scenic coastal setting and the security from its proximity to the park office and caretaker’s residence. Parking is available in the unpaved parking lot south of the park entrance and an access road and equipment drop-off area closer to the tent camping area could be provided. A new comfort station could also be located near the parking lot.

A second alternative is to relocate the tent camping area southeast of the cabins in the vicinity of an existing unpaved loop road (see Figure 10). This area offers a more secluded scenic coastal setting and is removed from the more active areas of the park. The existing loop road could provide vehicular access for equipment drop-off and parking could be accommodated at the unpaved parking lot near the park office and caretaker’s residence. A new comfort station would need to be developed near the relocated tent camping area by extending water lines and electrical service from the cabin area.

Cabins – The cabin area should remain in its present location since it occupies a previously disturbed area and the cost of developing supporting infrastructure to a different location would be significant. However, cabin design and landscaping could enhance the natural park setting. Accessible cabins should also be provided to comply with ADA requirements.

Trailer Camping - The small unpaved parking area reserved for trailer camping is located near the tent camping area. The site appears to be underutilized and consideration should be given to whether an exclusive lot should be designated for this activity. Rather than designating an exclusive area for trailer camping, this activity could be accommodated at either the parking area reserved for campers or at the unpaved parking lot near the park entrance.

5.2 Alternative Support Facilities

5.2.1 Roadways

Access to Wai‘ānapanapa State Park is provided off the Hāna Highway via Honokalani Road. The access road to the park can be disorienting to visitors since it passes through a residential neighborhood and there is no clear indication that they have entered the park. Upon entering the park, visitors are confronted with an intersection and must decide which way to turn. The existing signage is vague and

visitors are uncertain what the park has to offer. Consequently, they may drive around to find facilities such as the comfort station or, if they decide to park, may find themselves far from where they would like to be. In particular, the most popular area to sightsee, rest-stop, and picnic is at the northern end of the road near Pa'iloa Bay, but visitors are not clearly directed to that area.

Residents living along Honokalani Road have expressed concerns about the volume of park-related traffic using the narrow, substandard residential roadway. Concerns include pedestrian safety, especially for their children, traffic conflicts at driveways, unauthorized on-street parking, and traffic noise.

Vehicular access and circulation within the park should direct traffic to desired destinations within the park through intuitive cues and directional signage. Three access road alternatives are discussed below:

Existing Access. As discussed previously, the existing access road, directs all park traffic through a residential neighborhood along a narrow, substandard road. Upon entering the park, visitors become disoriented when they are confronted with an intersection and the existing signage provides little indication as to where they may want to go. Widening the existing access road is not considered to be a viable alternative because this would require condemnation of privately owned lands, which is an action that the DLNR wishes to avoid. Furthermore, widening the existing access road is undesirable because this may encourage speeding and exacerbate safety issues.

Since Honokalani Road will remain the park's primary access road for the foreseeable future, measures should be taken to improve safety and traffic operation. Traffic calming devices such as speed bumps or rumble strips could be installed to reduce vehicle speed and address safety issues. Signs should be posted cautioning drivers of the speed limit in a residential area and that on-street parking is prohibited.

A landscape feature in conjunction with signage could be used to clearly identify the entry to the park. Additional directional signs, developed under a signage plan, should also be provided to clearly direct visitors to desired destinations such as the park office, Pa'iloa Bay and black sand beach, and the comfort station.

If an alternate primary access road is provided, the existing access road could serve as a secondary access road for residents, many of whom use the unpaved parking area opposite the road to access the shoreline for fishing.

Southern Access Road. An exclusive primary access road to the park could be provided through State-owned land south of the privately owned lands lying between the park and the highway. Because of the curvature and undulating elevation of the highway in this area, the intersection connecting the road to Hāna highway would need to be in the vicinity of Hāna High School to provide for adequate sight distance at the intersection. Even at the location shown in Figure 10, modifications to the highway may be required to achieve safe sight distances. The access road would enter the park south of the primary park facilities and would result in high traffic volumes traversing northward through the park. If the tent camping area is relocated southward and a new comfort station is constructed, these facilities may receive high levels of shared use.

Northern Access Road. An exclusive primary access road to the park could be provided through State Department of Transportation owned land between the park and the highway (see Figure 10). Although the distance from the highway to the park boundary is longer than for the Southern Access Road Alternative, the length of the Northern Access Road is actually shorter because it can directly intersect the highway since sight distances are adequate for safely negotiating entry and exit. The primary advantage of this route is that visitors entering the park would directly access the high volume sightseeing area near Pa‘iloa Bay and many visitors would have no reason to drive beyond it into other areas of the park.

5.2.2 Parking

As previously noted in section 3.2, there are three paved and two unpaved parking lots at Wai‘ānapanapa State Park. It is estimated that during peak hours, there may be more than 100 vehicles within the park, which is substantially beyond the capacity of existing parking facilities. Alternatives for providing additional parking capacity are as follows:

New Parking Area. The greatest demand for parking is at the end of the road near Pa‘iloa Bay for sightseeing, using the comfort station and picnicking. Additional parking in this area will help to reduce overflow parking along the road and in parking areas reserved for other uses. A previously cleared area *mauka* of the existing parking lot at the northern end of the park’s access road could be

used for developing more parking (see Figure 10). If this parking lot were to serve as the primary parking area for day-users, it should have a capacity of about 100 stalls to accommodate demand during peak hours. The new parking area would need to be designed to satisfy ADA requirements.

Improve Existing Gravel Lot. The unpaved parking lot near the existing park entrance should be improved, as it presently serves as an overflow parking area. This parking lot could also serve campers and recreational vehicles should these uses be relocated.

Commercial Vehicle Parking Area. Construction or designation of a parking lot for commercial vehicles should be considered. Presently, commercial vehicles (vans and mini-buses) compete with private automobiles for parking spaces, and due to their larger size, typically use more than one parking stall. Designating the recreational vehicle parking lot for commercial vehicles may be appropriate as it appears to be underutilized. Parking fees for commercial vehicles should also be considered.

5.2.3 Water System

As discussed in section 3.2, the County of Maui Department of Water Supply provides water service to the park via a 4-inch pipe located within Honokalani Road. Improvements to the water system that may be considered are discussed below:

The volume of water usage at the comfort station during peak hours exceeds the capacity of the 1.25-inch lateral serving it, causing reduction of flow for showers and faucets. The lateral serving the comfort station should be sized to meet the high volume of demand, including potential expansion of the comfort station.

The 2.0- and 2.5-inch water lines in the park are not capable of meeting fire flow requirements. Consideration should be given to extending the 4-inch line in Honokalani Road to the comfort station and cabins and installing standpipes for fire protection. A 4-inch water line would also ensure that sufficient water flow is available should a second comfort station be constructed. Full compliance with fire code requirements may be limited, however, by the pressure and sustainable volume of flow available through the 4-inch line serving the park.

5.2.4 Comfort Station and Wastewater System

The single comfort station at Wai'ānapanapa State Park is equipped with 2 urinals and 1 toilet on the men's side and 3 toilets on the women's side. Showers are located in front of the comfort station. The comfort station is not compliant with ADA accessibility standards.

Wastewater disposal for all of the park facilities is via cesspool. The comfort station and the caretakers residence have one cesspool each that are located immediately *makai* of the structures. The 12 cabins are grouped in pairs with each pair of cabins sharing a cesspool. The State Department of Health (DOH) is requiring that all cesspools serving more than 20 people or 5 bedrooms, or a demand greater than 1,000 gallons per day, be converted to a septic tank/leachfield by April 5, 2005. The comfort station, which likely generates flows of over 1,000 gallons per day, is the only facility at Wai'ānapanapa State Park that is affected by this requirement.

Improvements to the wastewater system are discussed below:

Comfort Station Renovation/Replacement. The comfort station, which was constructed in 1972, is in need of substantial renovation. Renovation of the comfort station, however, would require that it be made ADA accessible, reducing the number of urinals/toilets available. To provide accessible toilet stalls, the two urinals on the men's side would be reduced to one and the three toilets on the women's side would be reduced to two. To accommodate the high demand placed on the comfort station, it should be expanded or replaced with a larger facility.

Cesspool Conversion. The comfort station's cesspool must be converted to a leachfield/septic system, as required by the DOH. Although not required by the DOH or to address any apparent coastal water quality issues, conversion of the cesspools at the caretaker's residence and cabins to a septic tank/leachfield system should be considered as a means of protecting the natural environment.

New Comfort Station. If the campgrounds are relocated, a second comfort station should be constructed near the campgrounds. This comfort station could serve campers and residents who access the shoreline in this area. The new comfort station should dispose of wastewater via a septic tank and leach field system.

5.2.5 Park Office/Caretaker's Residence

The Park Office and Caretaker's Residence are located in a single structure near the entrance to the park. According to the Facility Assessment, the building was renovated in 2002 and appears to be in good condition. Improvements proposed by the Facility Assessment include: renovating the office to be ADA compliant, installing security screens over windows, replacing door hardware at the office, installing hurricane connectors to the roof structure, adding roof fasteners and replacing the metal roofing trim, installing foundation wall segments, adding plywood shear walls, touch-up painting of deteriorated wood and metal surfaces, repainting the metal roof, and miscellaneous repairs. Replacement of the roof could also be considered. Renovation of the Caretaker's Residence to comply with ADA requirements will be required.

The Park Office/Caretaker's Residence should remain at its present location as it is centrally located relative to the developed areas of the park. If additional parking is provided near Pa'iloa Bay, however, security concerns may become an issue as parked cars will be further away from the Park Office/Caretaker's Residence. The Park Office/Caretaker's Residence would also be further from the park entry if a new entry road is constructed.

5.2.6 Visitor/Interpretive Center

A Visitor/Interpretive Center to house displays, exhibits and visitor information is proposed to heighten awareness and understanding of the natural, cultural, and scenic resources in the park within the context of the larger Hāna area. The most suitable location for a Visitor/Interpretive Center would be near Pa'iloa Bay since this is the area most frequented by visitors and it is near the proposed entry road and parking lot. The Visitor/Interpretive Center should be designed to be ADA accessible and should provide exhibits of park resources where it is technically infeasible to provide ADA access. The center should be designed to complement the park's natural and cultural setting and to provide suitable protection for exhibits.

5.3 Facility Design Concepts

Facility design concepts are based on enhancing public use and enjoyment of the park's natural, cultural and scenic values.

5.3.1 Access Road

The access road should provide a memorable first impression of the park.

- A landscape entry feature should be provided at the highway and park entrance to let visitors know they are entering a special place.
- The relocated primary access road should be designed to calm traffic by including gentle curves and speed humps, as needed.
- Native *hala* should be restored along the length of the relocated roadway to enhance the experience of the drive into the park.

5.3.2 Sightseeing Area

The sightseeing area should provide unobstructed views of the park's natural, cultural and scenic values.

- Primary paths from the parking area should direct visitors to the educational/interpretive center, viewing areas along the upper rim of Pa'iloa Bay, picnic areas and comfort station. The primary paths should be ADA accessible with a distinctive paving texture, avoiding asphalt and bare concrete, to complement the natural setting.
- An educational/interpretive center should provide exhibits and displays that promote visitor awareness and understanding of the park's resources and opportunities.
- Provide interpretive trails to nearby attractions.
- A new comfort station designed to complement the architectural character of the educational/interpretive center should be constructed.

5.3.3 Cabins

Three alternative cabin floor plans have been designed to take advantage of the park's natural setting. The first, referred to as Cabin A is a two-room structure that has an enclosed bedroom and open lānai (see Figure 11). The cooking and dining area would be within the lānai of the cabin with a separate structure housing the bathroom. The intent of having a separate structure for the bathroom is that it keeps the wet area, which is typically damp and harder to clean, away from the main cabin. The total roofed area of the cabin and bathroom is approximately 348 sq. ft.

The second design, referred to as Cabin B, incorporates a bedroom, kitchen/dining room, and open lānai (see Figure 12). The bathroom would also be integrated into

the main structure but has a separate entrance to facilitate cleaning. The cabin has a total roofed area of approximately 480 sq. ft.

The final design, referred to as Cabin C, incorporates two bedrooms, a kitchen/dining room, bathroom, and open lānai (see Figure 13). The lānai opens to a courtyard that would enhance the feeling of open space. The total roofed area of the cabin is about 756 sq. ft.

Regardless of the cabin design that is selected, the cabins should be constructed to be consistent with the natural setting of the park. Using materials such as redwood, painting the cabins earth tone colors, and using landscape screening would allow the cabins to be visually unobtrusive. At least one accessible cabin should be provided to comply with Federal ADA requirements.

5.4 Park Boundary Adjustment

Adjustment of the park’s boundaries to include adjacent state-owned lands that contain significant natural or cultural resources should be considered. In particular, the DLNR should seek jurisdiction of lands north of the park under executive order to the State of Hawaii, Department of Transportation (DOT). This area contains Wai‘ānapanapa Caves, an expansive hala forest, and many cultural sites. The boundary adjustment would also enable the DLNR to construct the proposed access road (Alternative 2) that traverses through DOT’s property.

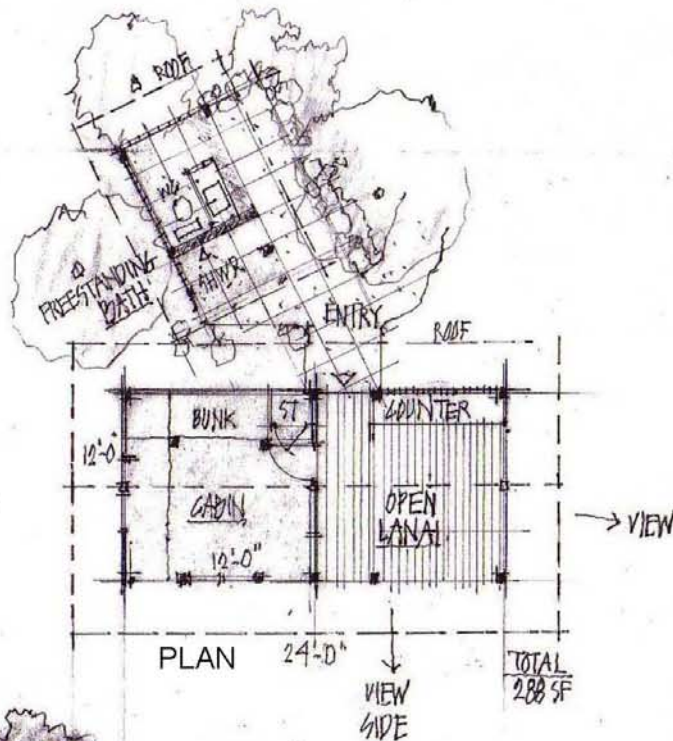
Back to Nature

Approximately 348 sq. ft. of roofed area.

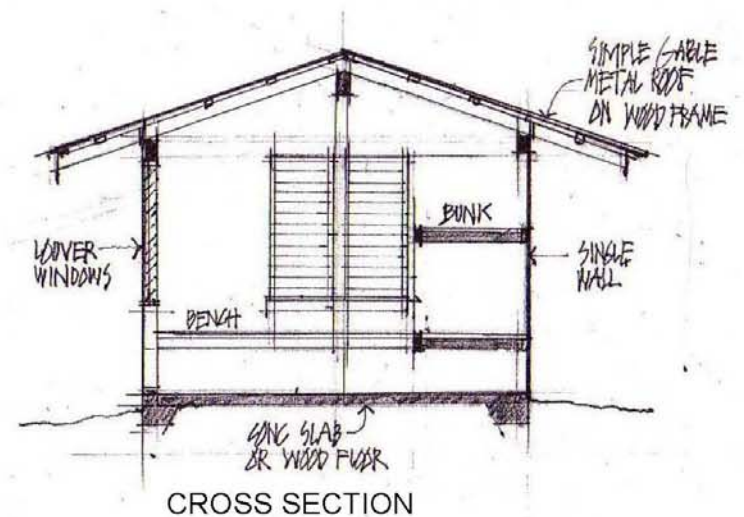
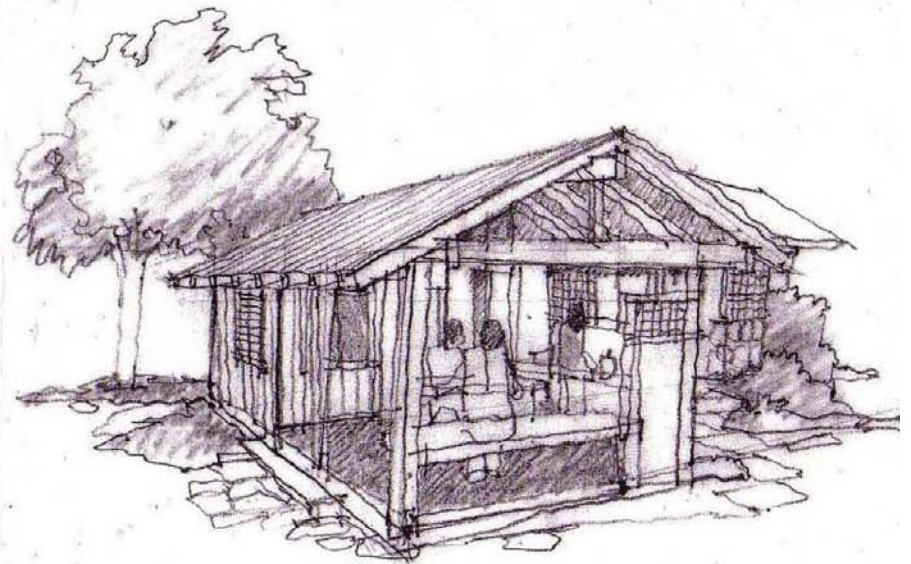
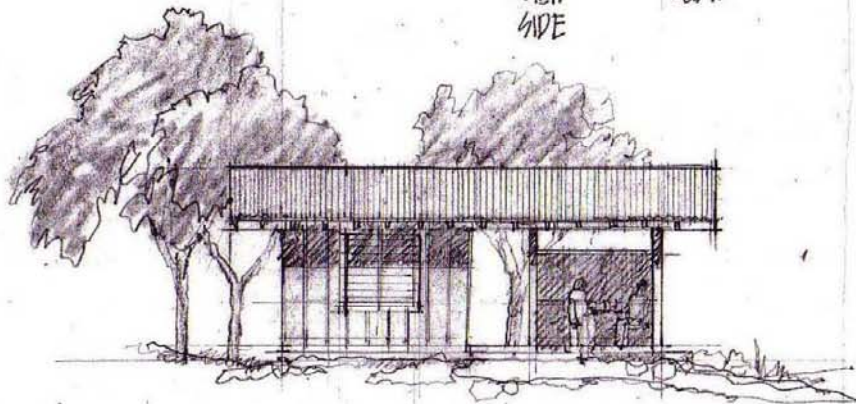
A two room structure that provides a sleeping area and an open lanai for cooking, dining and socializing.

The bathroom is a separate structure. This moves the higher-maintenance wet area, which typically is damp and musty, away from the cabin.

The structure is a wood framed, single wall, gable structure.



- AMENITIES**
- ☒ BATHROOM
 - ☒ Toilet
 - ☒ Basin
 - ☒ Shower
 - ☒ Hot water
 - ☐ KITCHEN
 - ☐ Sink
 - ☐ Stove
 - ☐ Refrigerator

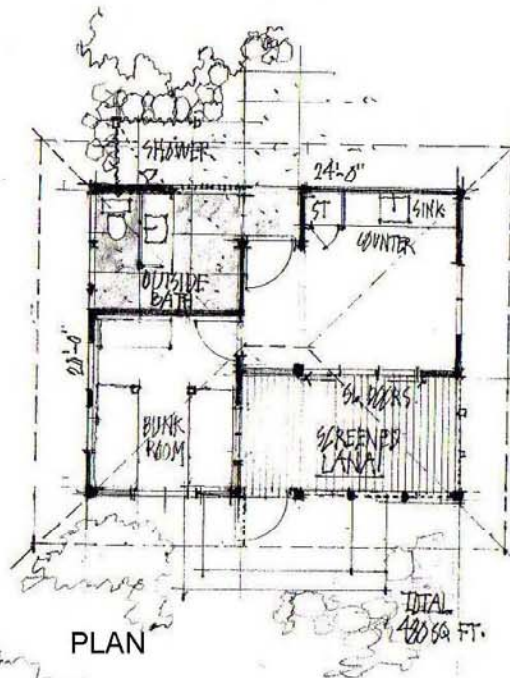


Wai'anapanapa State Park Master Plan

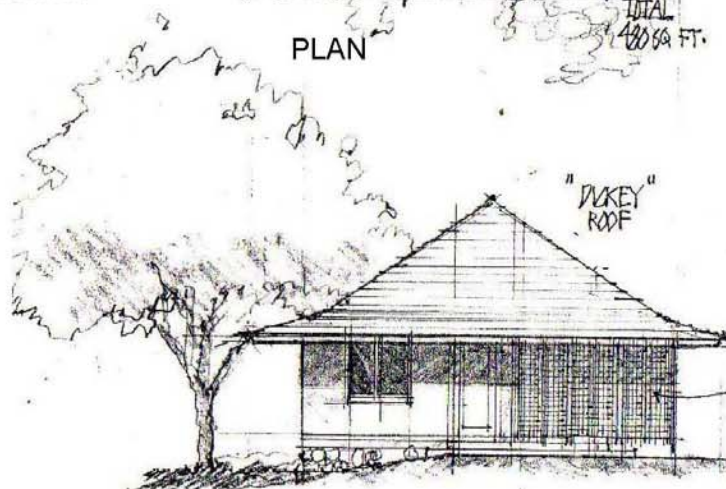
Dickey Roof Style

Approximately 480 sq. ft. of roofed area.

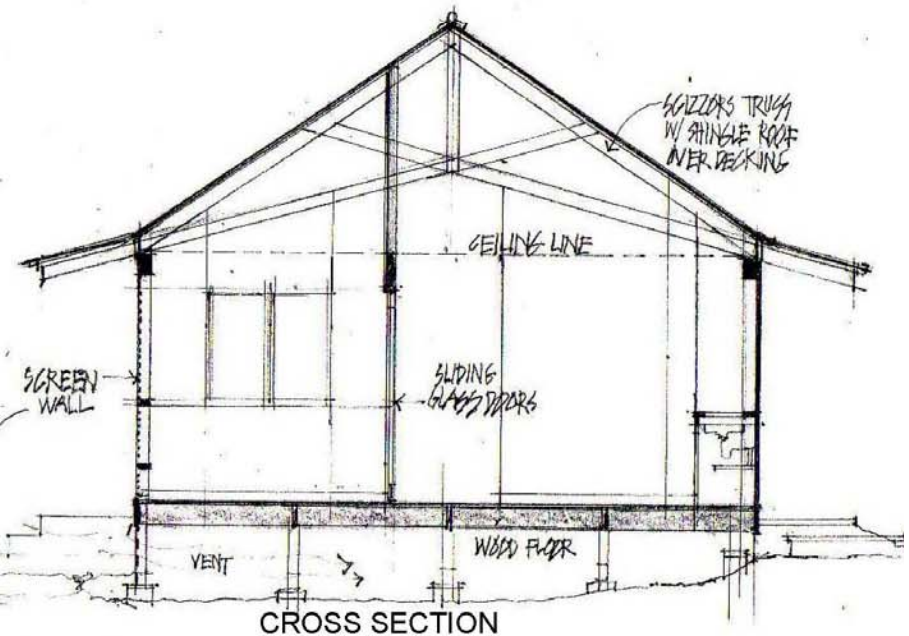
This plan has a lanai tucked into the corner with the living and sleeping areas opening into it. The bathroom is integrated into the structure but entered from the outside. The Dickey roof is the most complicated and requires the most lumber of the three roof structures.



- AMENITIES**
- BATHROOM
 - Toilet
 - Basin
 - Shower
 - Hot water
 - KITCHEN
 - Sink
 - Stove
 - Refrigerator



Note double pitched "Dickey roof"
Cottage, Halekulani Hotel, Honolulu 1926

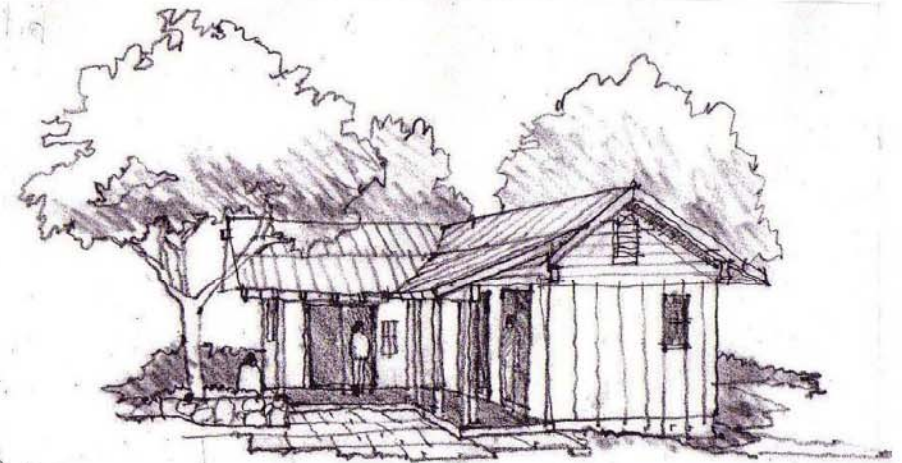
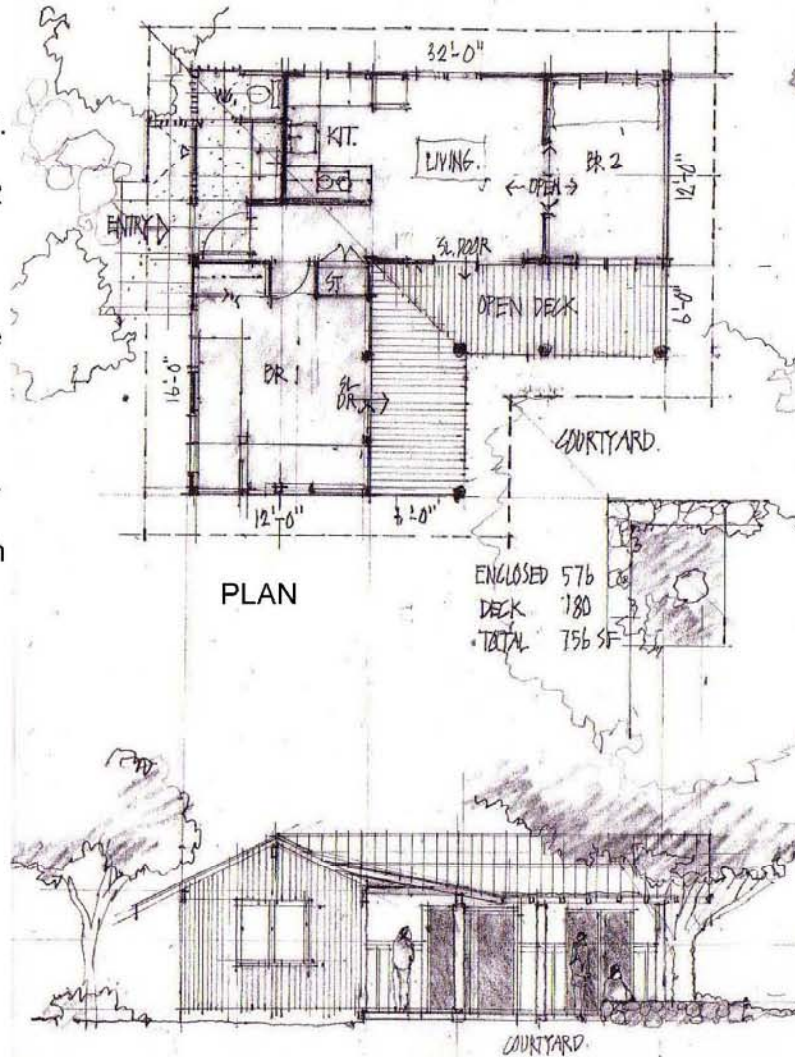


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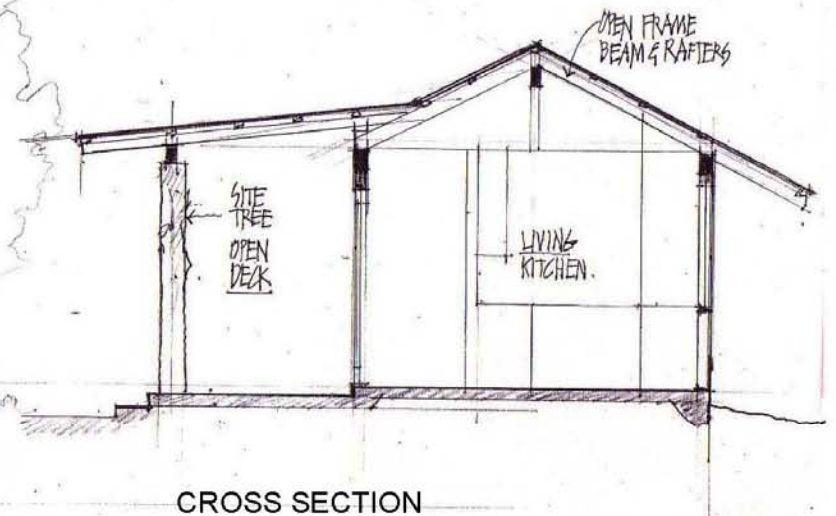
The Courtyard Cabin

Approximately 756 sq. ft. of roofed area. This plan has a kitchen, living and 2 sleeping room that open on to decks. The bathroom is constructed for hose down maintenance. An extension roof covers open decks facing the courtyard. Roof design are interchangeable with all cabins.

- AMENITIES**
- BATHROOM**
- Toilet
 - Basin
 - Shower
 - Hot water
- KITCHEN**
- Sink
 - Stove
 - Refrigerator



Covered decks open out to a courtyard



Michael Toma
ARCHITECT

Wai'anapanapa State Park Master Plan

Cabin C

Figure No. 13

6. PREFERRED DEVELOPMENT CONCEPT

As previously mentioned, Wai‘ānapanapa State Park has experienced a dramatic increase in visitors since its inception. Presently, most park visitors are tourists traveling on the Hāna Highway who visit the park for only a short while to sightsee or rest. Based on this pattern of use, the preferred development concept for Wai‘ānapanapa State Park, illustrated in Figure 14, separates the park into short-term use, day use, long-term use, and preservation districts. This concept efficiently accommodates short-term visitors and separates higher intensity uses from the rest of the park, thereby allowing the majority of the park to remain in its natural condition. The following section describes the experience that the plan will provide to visitors.

6.1 The Visitor Experience

6.1.1 Park Entry

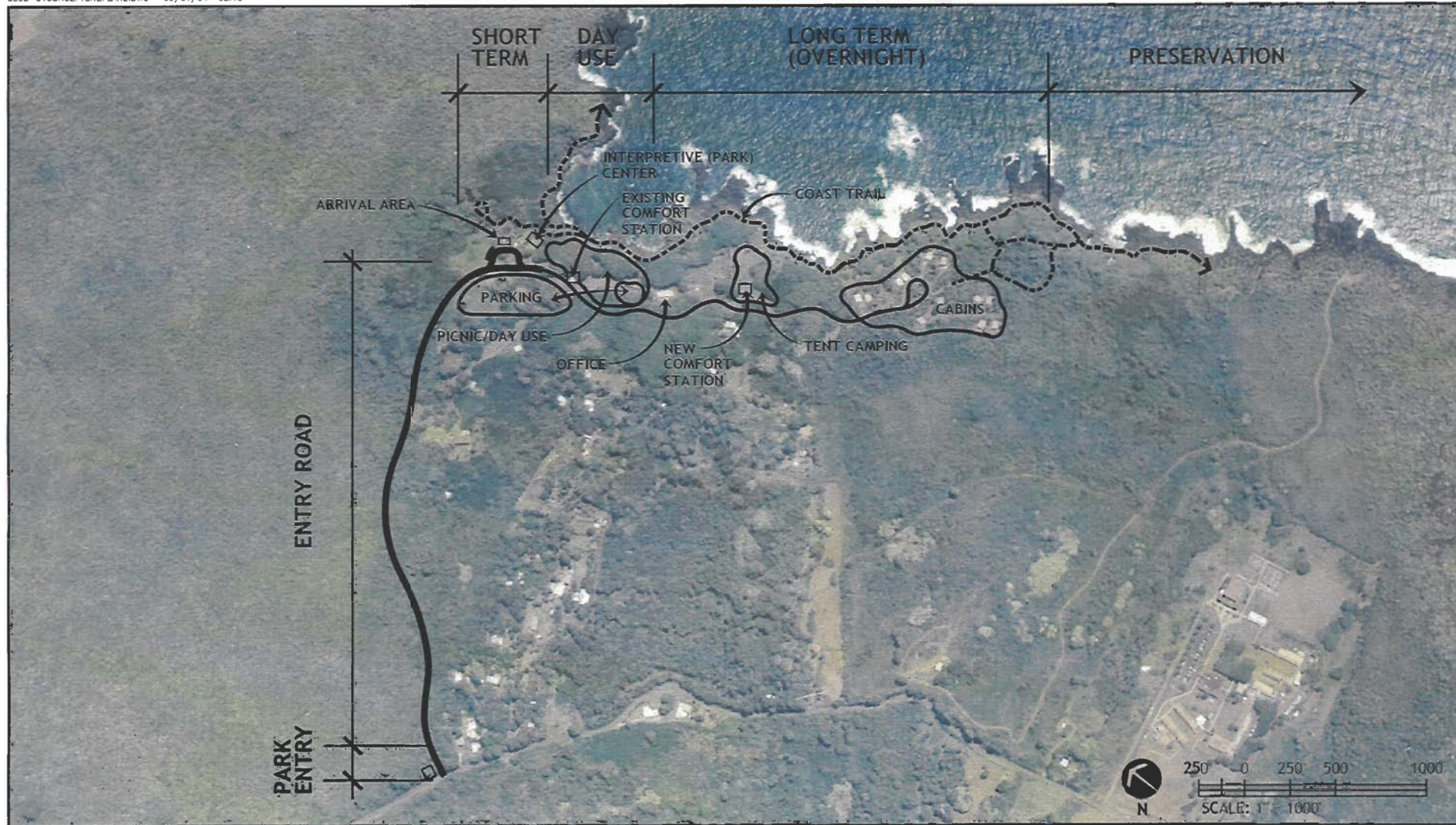
Visitors traveling to Wai‘ānapanapa State Park on Hāna Highway will be greeted at the park’s entry by a landscaped entry feature. The entry feature will symbolize the park’s cultural significance with the use of Hawaiian elements, such as a *pōhaku* (stone) sign accented with native landscape plantings. A new winding two-lane road bordered with native landscape plantings, such as hala, will guide visitors into the park. Traffic calming features such as curves, center islands, textured pavements, and speed tables may be used to maintain vehicles at a safe speed as they travel along the park’s entry road.

6.1.2 Park Arrival

Upon arriving in the park, visitors traveling in private automobiles will be directed to a new parking lot. The parking lot, which will be large enough to accommodate demand during peak hours, will be landscaped with shade trees and screened from view with plantings. Visitors arriving in commercial vehicles or requiring special assistance will be dropped off at a loading area. A time limit will be set for commercial vehicles parked in the loading area to ensure that it does not become congested.

6.1.3 Short-Term and Day Use Districts

From the parking lot and loading area, visitors will be directed by signs and pathways to the park’s visitor/interpretive center. The interpretive center will contain exhibits describing the park’s natural, historic, and cultural resources and



Wai'anapanapa State Park Master Plan

Proposed Development Concept

Figure No.

14

information on activities that visitors may enjoy while visiting the park. From the interpretive center, visitors may choose to walk along the loop trail leading to Wai'ānapanapa caves or to the lookout at Pa'iloa Bay. Visitors staying for longer periods may choose to hike along the coastal trail, walk to the black sand beach in Pa'iloa Bay, or picnic or rest at the open field where the campgrounds are presently located. Directional signs and interpretive displays located along paths will point out historic sites, native flora and fauna, and park facilities for visitors. Viewing and rest areas will also be available at appropriate locations. For residents or visitors wishing to picnic at the park or fish or swim in Pa'iloa Bay, the parking lot presently reserved for campers will serve as a convenient area for families to access the open grass field and Pa'iloa Bay.

6.1.4 Overnight Use

Overnight visitors to Wai'ānapanapa State Park can choose to camp at the park or stay in one of the park's cabins. An approximately two-acre area reserved for tent camping will be relocated away from the more heavily visited day-use areas. Trees and landscape plantings will provide shade and privacy for campers. The existing unpaved parking lot will be paved to provide convenient access for campers and others wishing to access the shoreline. Persons wishing to visit the park with recreational vehicles will also be able to stay overnight at this parking lot. A new comfort station will be constructed to serve campers.

Overnight visitors will also have the option of staying at the park's cabins. The cabins will provide basic amenities to visitors yet have a rustic character that is consistent with their natural surroundings. Landscape plantings will provide screening between cabins and privacy for visitors. Disabled visitors will also be able to enjoy use of the cabins at specially designed accessible cabins. Although the number of cabins may increase slightly, they should remain within the confines of the presently developed area to avoid further disturbance to the natural environment.

6.2 Phasing Plan

The following phasing plan considers the logical sequencing of facility improvements, improvements that should be given priority to meet legal requirements, and funding constraints. The improvements have been divided into immediate (to be implemented as soon as possible), short-term (within 5 years) and long-term (within 5 to 10 years) periods. The phasing plan should not preclude earlier development of short-term or long-term improvements should funding become available.

TABLE 3
SUMMARY OF PROPOSED IMPROVEMENTS AND PHASING PLAN

Time-Frame	Improvement
Immediate	<ul style="list-style-type: none">• Replace cesspools with septic systems.• Improve walkways to be ADA compliant.• Provide suitable protection for the private cemeteries within the park.• Implement a signage program.• Remove alien flora species and replace with native species in selected areas.• Remove alien aquatic species from the pools at Wai'ānapanapa caves.• Consult with the State Department of Transportation regarding gaining jurisdiction over lands north of the park.
Short-Term	<ul style="list-style-type: none">• Upgrade the park's water system by installing 4-inch pipes and install hydrants.• Renovate and increase the capacity of the existing comfort station.• Construct an interpretive center.• Install interpretive signage along paths.• Expand and improve the park's network of pathways and incorporate landscaped rest areas.• Pave the parking lot at the present park entrance.• Construct a new comfort station near the existing unpaved parking lot.• Relocate the campgrounds and recreational vehicle parking area.• Replace the cabins (to be done in phases).
Long-Term	<ul style="list-style-type: none">• Construct a new parking lot and roadway improvements near Pa'iloa Bay.• Construct a new park access road and entry feature.

6.3 Cost Estimates

The following are construction cost estimates for proposed major facility improvements. The estimates do not include design fees or special studies, such as topographic surveys or geotechnical reports, that may be required. The actual cost may vary depending on design specifications.

**TABLE 4
COST ESTIMATES**

Improvement	Cost
Replace the comfort station and cabin cesspools with septic systems	\$340,000
Upgrade the water system to 4-inch diameter pipes and install hydrants	\$133,000
Renovate & expand the existing comfort station	\$150,000
Construct a new Interpretive center	\$100,000
Pave the existing gravel lot	\$138,000
Construct a new comfort station for the relocated campgrounds	\$500,000
Construct a new parking lot (assume 100 stalls) near Pailoa Bay	\$267,000
Construct a new park access road (assume 3,500 foot long two-lane roadway)	\$392,000
TOTAL:	\$2,020,000